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CANADIAN GEOGRAPHICAL JOURNAL

CONTENTS

HUNGARIANS IN CANADA • PICTORIAL OF HUNGARY
FUR MANAGEMENT IN ONTARIO
SHORAN RECONNAISSANCE IN CANADA'S NORTH
IN THE KAMLOOPS DISTRICT OF BRITISH COLUMBIA
NEW ZEALAND—THE LONG BRIGHT LAND

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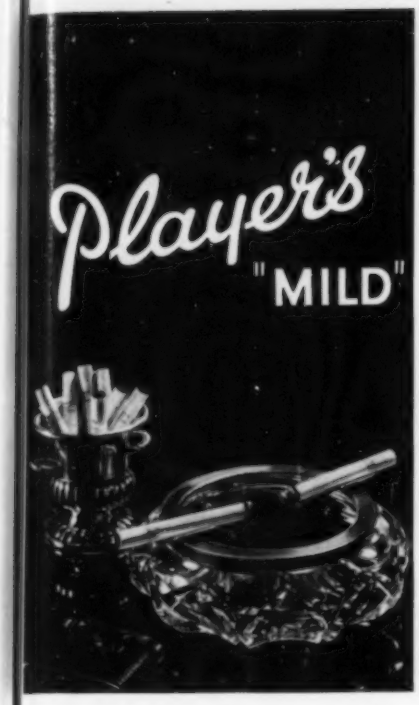
As one of its major activities in carrying out its purpose, the Society publishes a monthly magazine, the Canadian Geographical Journal, which is devoted to every phase of geography — historical, physical and economic — of Canada, of the British Commonwealth and of the other parts of the world. It is the intention to publish articles in this magazine that will be popular in character, easily read, well illustrated, and informative.

The Canadian Geographical Journal will be sent to each member of the Society in good standing. Membership in the Society is open to any one interested in geographical matters. The annual fee for membership is five dollars (Canadian currency).

The Society has no political or other sectional associations, and is responsible only to its members. All money received is used in producing the Canadian Geographical Journal and in carrying on such other activities for the advancement of geographical knowledge as funds of the Society may permit.



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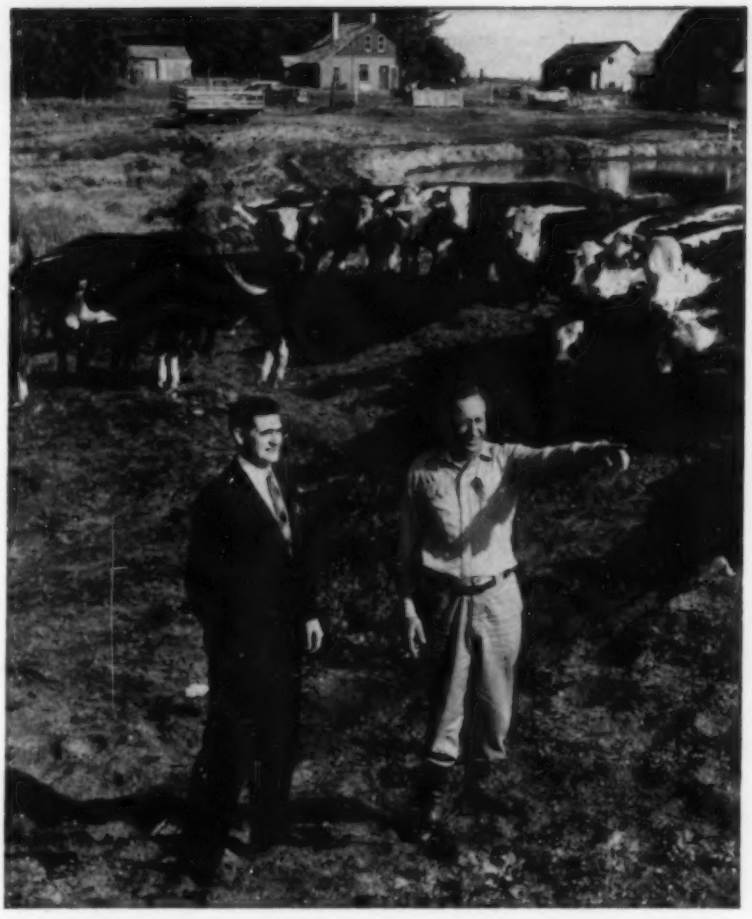

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A. Hollenzer

CANADIAN GEOGRAPHICAL JOURNAL

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CONTENTS

AUGUST 1957 ✦ VOLUME LV ✦ NUMBER 2

COVER SUBJECT:—*Killarney Lake, about twelve miles north of the International Boundary in Manitoba.*

Photographs by Gerry Cairns

Page

HUNGARIANS IN CANADA 46
by MERLE STOREY

PICTORIAL OF HUNGARY 54
by A. HOLLENZER

FUR MANAGEMENT IN ONTARIO 62
by A. deVOS and A. T. CRINGAN

SHORAN RECONNAISSANCE IN CANADA'S NORTH 70
by F. C. HOEFSMIT

IN THE KAMLOOPS DISTRICT OF BRITISH COLUMBIA 76
by DONOVAN CLEMSON

NEW ZEALAND — THE LONG BRIGHT LAND 80
by LEN WILKIE

EDITOR'S NOTE-BOOK V

THE TRAVEL CORNER VI

AMONGST THE NEW BOOKS VII

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PRINTED IN CANADA

Aboard a train carrying them to new homes in Canada, a smiling quartet of Hungarians make plans to form a theatrical troupe presenting plays in Hungarian, English and French. They are Charles Dolesch, a motion picture actor; Imre Pongracz, one of Hungary's foremost comic actors; Andrew Achim, actor, director and playwright; and Adam Kesmarky, ballet dancer.

C.N.R.

Hungarians in Canada

by MERLE STOREY

THE COURAGEOUS and tragic uprising in Hungary last October has resulted in a flow of Hungarian refugees to Canada which exceeded 30,000 men, women and children by mid-June of 1957. As Canadians welcome these newcomers to their cities and towns and in many cases into their homes, they feel a new curiosity and interest concerning those Hungarians who already form a part of the Canadian mosaic. How many Hungarians are there in Canada? Where do they live? What occupations do they follow? And what contributions have they made to our economic and cultural development? These are some of the questions that are being asked.

In 1951, the year of the last complete census returns, there were 60,460 persons of Hungarian origin in Canada. They were distributed among the provinces as follows: Newfoundland, 8; Prince Edward Island, 16; Nova Scotia, 487; New Brunswick, 69; Quebec, 4,127; Ontario, 28,182; Manitoba, 2,326; Saskatchewan, 12,470; Alberta, 7,794; British Columbia, 4,948; Yukon Territory, 19; and Northwest Territories, 14.

Hungarians have come to Canada mainly in four waves. The first covered a long period from about 1800 up to the outbreak of the First World War. Most of these early immigrants were peasants who sought escape from extremely difficult economic conditions at home, where over the centuries the land had been divided among the tenants into smaller and smaller farms.

The second group arrived in the period between the two wars and an even larger number came than before. Over 26,000 Hungarians entered Canada between 1926 and 1930. This wave of immigration was largely the result of unsettled economic and political conditions in the defeated and dismembered Austro-Hungarian Empire, and a partial closing of the gates to immigration in the United States. Unlike the earlier immigrants, many of these were accustomed to industrial life in Hungary and fitted more readily into an urban environment in Canada.

After the Second World War another fairly large group arrived — about 12,000 between 1st January 1946 and 30th June 1956. This group was mainly composed of those who had worked in Germany during the war and had not wanted to return to Hungary when it fell into Communist control, and refugees who in the years since the war had succeeded in escap-

ing from their homeland. They represented a cross-section of most classes and occupational groups in the population.

Then came the 1956 revolution and a flood of political refugees poured over the border into Austria. Since the end of the year many of these families and individuals have been arriving in Canada to form the fourth and what may be the largest wave of Hungarian immigrants to enter this country.

At the present time about forty-six per cent of the Hungarians are living in Ontario. This heavy concentration in the central province is, however, a comparatively recent development. It began in the 1920s when a large proportion of the new immigrants settled in the east, and accelerated in the 1930s when the depression drove many families from the prairies to Ontario.

In reality the history of the Hungarians in Canada began in the West. The building of the Canadian Pacific Railway between 1881 and 1885 and the opening up of the prairies first attracted small groups to this country. Most of these early immigrants came from the United States and founded small colonies in Saskatchewan and Manitoba. By 1911 there were over 11,000 in Canada, of whom over half were living in Saskatchewan.

This province was the goal of the first organized group of Hungarian immigrants who came from Pennsylvania in 1886. It was largely owing to the personal initiative of Count Paul d'Esterhazy, one of the founders of the Hun-

New citizens starting a new life. Twelve Hungarian couples who fled from their homeland during the revolution in 1956 are married in a mass wedding ceremony at Toronto's St. Elizabeth of Hungary Church.

Toronto Telegram

An eleven-year-old girl, on her arrival at Montreal's Central Station from Hungary, dances before parents and friends to express her joy.
Canada Wide Feature Service

garian Immigration and Colonization Society, that this group was brought to the Canadian West. Many had worked on the land in the old country but had been employed as coal miners and in other industrial occupations in the United States. The first colony, consisting of thirty-five families, was located a few miles north of the Qu'Appelle River in what became known as the Esterhazy district of south-east Saskatchewan. Although the first severe winter and the lack of religious leadership caused some to leave in bitter disappointment, the little settlement took root and was strengthened in the spring of 1888 by the arrival of twenty families direct from Hungary. By 1891 a fairly prosperous farming community had risen on what had been so recently the unbroken prairie. The settlers no longer depended entirely on grain farming but had branched out into other forms of agriculture, mainly cattle raising and dairy farming. With the opening of schools, the immigrants' children began to learn English and to acquire Canadian ways.

Today people of Hungarian origin are scattered throughout many parts of Saskatchewan. But the largest concentrations are in the Qu'Appelle Valley, Regina and a wide area north-east and south-east of the city, and farther north in the Prince Albert district.

Count d'Esterhazy's assistant, Count Geza de Dory, was responsible for the first Hungarian settlement in Manitoba. It was established in Hun's Valley in the Riding Mountains about

At table in a Hungarian home in Stratford, Ontario. The men work in an auto body shop and an electrical repair shop.
Stratford Beacon-Herald

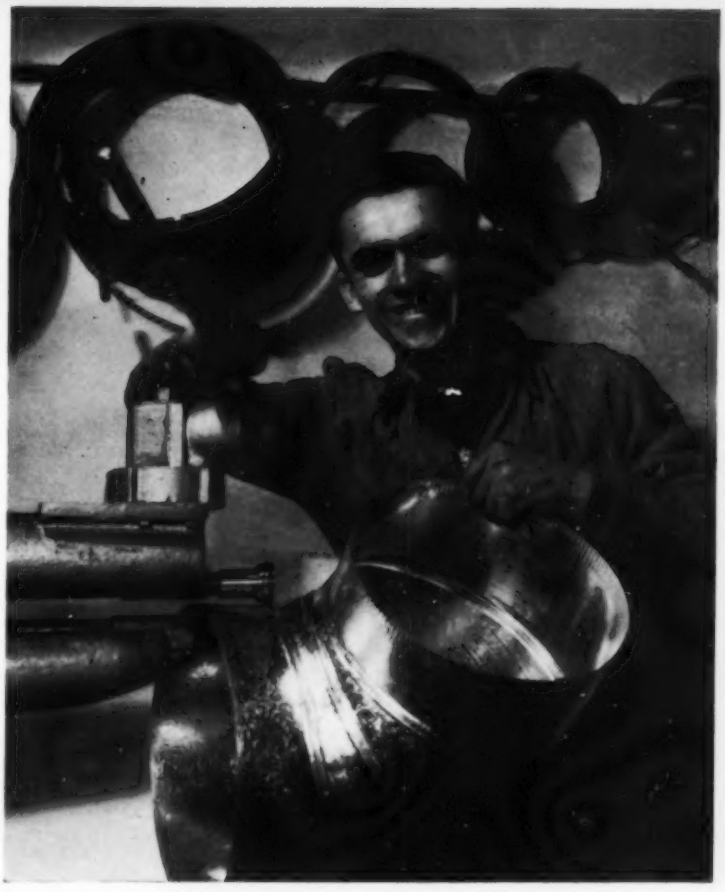
the same time as the Saskatchewan colony. Most of these settlers, too, were brought from the United States and they succeeded within a short space of time in establishing a thriving agricultural community. The number of Hungarians in Manitoba has remained relatively small. At the present time the majority are living in the Winnipeg area.

In Alberta the Hungarians first settled in scattered colonies between Lethbridge and Edmonton, with the largest group near Wetaskiwin. At first they worked mainly as coal miners, but many later turned to agriculture. Today the majority are found in the south-west part of the province, with relatively large groups in Lethbridge and Calgary.

After 1920, the main concentration of the Hungarian population in Canada began to shift from Saskatchewan to Ontario. Here they tended to move to the cities and towns, particularly Hamilton, Toronto, Windsor, Welland, Brantford, Niagara Falls and Oshawa. Another fairly large group went into tobacco farming in the area north of Lake Erie. Nearly ninety per cent of all persons of Hungarian origin in Ontario are concentrated in the thickly populated and highly industrialized counties of the south and south-west.

In Quebec, too, the Hungarians are an urban people. Almost ninety per cent of all those in the province were living in Montreal in 1951. In the Atlantic Provinces, very few Hungarians have settléd. There are about 500 in Nova Scotia, the majority urban-dwellers, and much smaller numbers in the other provinces.

On the west coast, the number of Hungarians in British Columbia has increased considerably



Many and varied are the skills of Canada's Hungarian population. This man is a sheet metal worker.

Newton

In a printing office a man who recently arrived from Hungary (left) is assisted by a friend who has been here for five years.

Newton

A skilled Hungarian workman in an auto repair shop.

Newton

A number of well educated Hungarians with technical knowledge and experience have become specialists in this country. The man shown here is a medical bacteriologist.

Newton

Below:—
The Hungarian proprietors of a meat shop and delicatessen with a compatriot (centre) who recently arrived. He is following his trade as a butcher.

Newton

On a map a railway official shows three Hungarian doctors the route of their long train journey from Halifax to Vancouver. The doctors speak both French and English.

C.N.R.

Below:—
The forest engineering division of Budapest's Sopron University emigrated en masse from their homeland and settled in British Columbia. Members of the group are shown at the University of New Brunswick shortly after their arrival. In centre is Dr. K. Roller, dean of the Hungarian faculty.

Telegraph-Journal

A winsome trio of Hungarian children seated on the few belongings of their parents whom they accompanied to Canada.

Roger Tissier, Le Nouvelliste

since 1930. The prairies lost many farmers to British Columbia, as well as to Ontario, during the depression and many recent immigrants have settled on the west coast. There were just under 5,000 Hungarians in the province in 1951, with a fairly even distribution between rural and urban areas and a concentration in the Fraser Valley.

During the more than seventy years that Hungarians have been in Canada, they have made contributions to Canadian development in a variety of fields. As pioneer settlers they played an important part in the opening up and development of the West, particularly Saskatchewan. And as they moved into the other Prairie Provinces, they proved to be successful farmers wherever they settled. Later, in Ontario, many turned to tobacco growing and they have made a significant contribution to the development of that industry.

When Hungarians moved into the urban centres, they engaged in a wide variety of occupations, in many of which they excelled. Hungarian restaurants, for example, have become justly famous for their splendid cooking and special Hungarian dishes. Several of these restaurants have sprung up recently in large centres like Toronto and Montreal. They have given Canadians a chance to sample Hungary's national dish, goulash, which is a paprika-seasoned beef stew, often prepared with wine, caraway seeds and green peppers.

In the industrial field a number of factories have been established in recent years by Hungarians. Among these are a food cannery, a factory making tapes of cotton, linen and synthetic materials, and a plant to process sheepskins for "mouton" fur and linings.

Medicine is a profession which has attracted a rather striking number of Hungarians. Among them is Dr. Ernest Kovacs, a research associate at the School of Hygiene, University of Toronto. He is at present carrying out experiments in an effort to discover the cause of multiple sclerosis. Another Hungarian who is making an important contribution to medical research is Dr. Andrew Sass-Kortsak, a child specialist, who is a member of the Research Institute of the Hospital for Sick Children in Toronto.

There are also Hungarians on the staffs of a number of Canadian universities. For example, at the University of Montreal there are now five Hungarian professors teaching social and physical sciences.

Hungarians, like Canadians, apparently excel at figure-skating, and several former champions from Hungary are now devoting their talents to instructing Canadians in this art. Denes Potaky, a former Hungarian and European title-holder, produced a skating carnival at Weston near Toronto several years ago. Andrea Bernolak, who with her partner won the European pairs title in 1948 and the world pairs title in 1949, has instructed at Pembroke and Ottawa.

In the arts Hungarians are well represented. One of the principal ballerinas with the Royal Winnipeg Ballet was Eva von Gencsy, until she left in 1954 to join a television ballet programme in Montreal. Geza de Kresz and Ferenc D'Albert are leading violinists. The latter was appointed examiner for McGill University and director of the Assumption College Summer School and Music Festival in 1956. Margaret Rott and Eva Landori, both artists, have held exhibitions of their paintings

since coming to Canada. George Feyer is a cartoonist whose drawings appear on television and as illustrations for magazine articles. In the field of small ceramic figures Maria Rahmer de Nagay has won high praise. Her husband, Tibor de Nagay, is a fashion designer in Toronto. The winner of a recent competition to provide a design for a new Canadian silver dollar to commemorate British Columbia's centennial in 1958 was Stephen Trenka. Another artistic Hungarian is the sculptor, Victor Tolgyesy, who draws much of his inspiration from spiritual themes.

The Hungarians are a small group with no close linguistic affinity with other people in the country. Their language is Magyar which, like the Finnish and Estonian languages, is of Finno-Ugrian origin. The connection between Magyar and these languages is remote, however; experts say that the Magyar language is quite different in grammatical construction from any other European language.

The movement of Hungarians into Canadian urban centres in the twenties and thirties tended to promote the growth of ethnic organizations. A great many sprang up but most disappeared after a brief existence, only to be followed by new ones. This characteristic of Hungarian organizations may be partly caused by lack of group cohesion. The loyalty of Hungarians has generally been to the family and kindred group rather than to large organizations.

The most important associations of the early immigrants were the mutual benefit societies. These tended to have the largest memberships and longest lives. Many of the recent associations have been concerned with Hungarian political matters. They differ widely in their ideals but are united in their anti-Communism and nationalism. Their orientation is towards Hungary rather than Canada, but it is believed that this type of organization will gradually lose its strength.

Probably the most important national festival observed annually by Hungarians in Canada is the anniversary of the 1848 Revolution. In Hungary the revolutionary fever which swept Europe in 1848 took the form of a struggle for independence from Austrian rule. Louis Kossuth, the fiery leader of the uprising, was forced to seek refuge abroad after the failure of the revolt. Many other Hungarians fled from their country at this time and some migrated to the United States. The occasion is marked each year in most Hungarian communities in Canada by a programme of Hungarian dances, songs, poetry, music and speeches.

Now the wheel has come round full circle. Over one hundred years after the earlier revolution, Hungarians have once again fought for the freedom of their country. This time many have found refuge in Canada. Their skills and training, and their independent and courageous spirit will enrich Canadian life in the years that lie ahead.

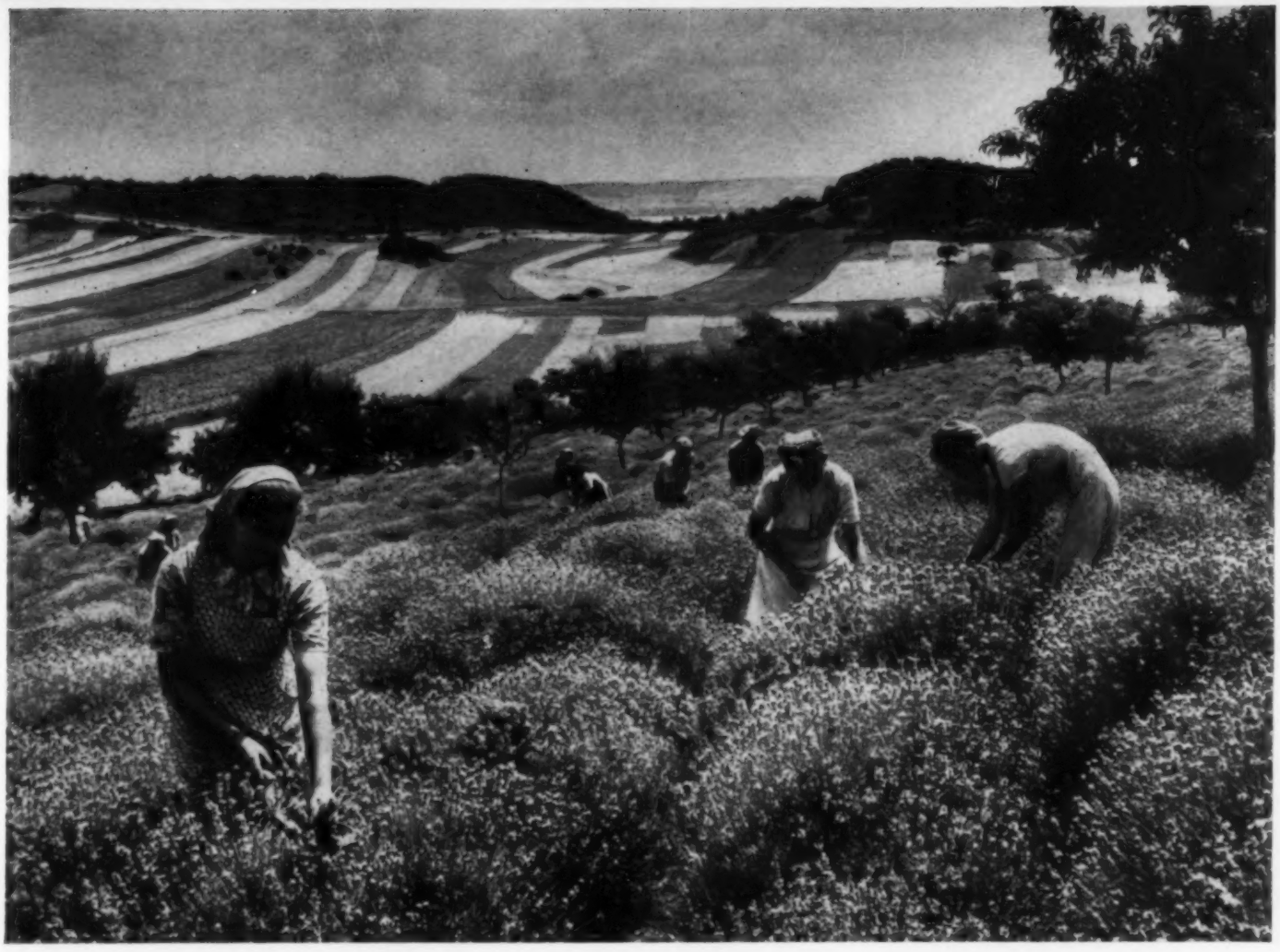
Students from Carleton University and the University of Ottawa formed a welcoming committee to meet a train bearing Hungarian immigrants that paused briefly at Ottawa. They are shown with some of the children.
Champlain Marcil

Pictorial of Hungary

Photographs by
A. Hollenzer except where credited.

The peasant women of Hungary have always been famed for their skilful embroidery and on festive days both men and women wear clothes decorated with magnificent needlework. These women are working in the little village of Siögard.
A. Munk

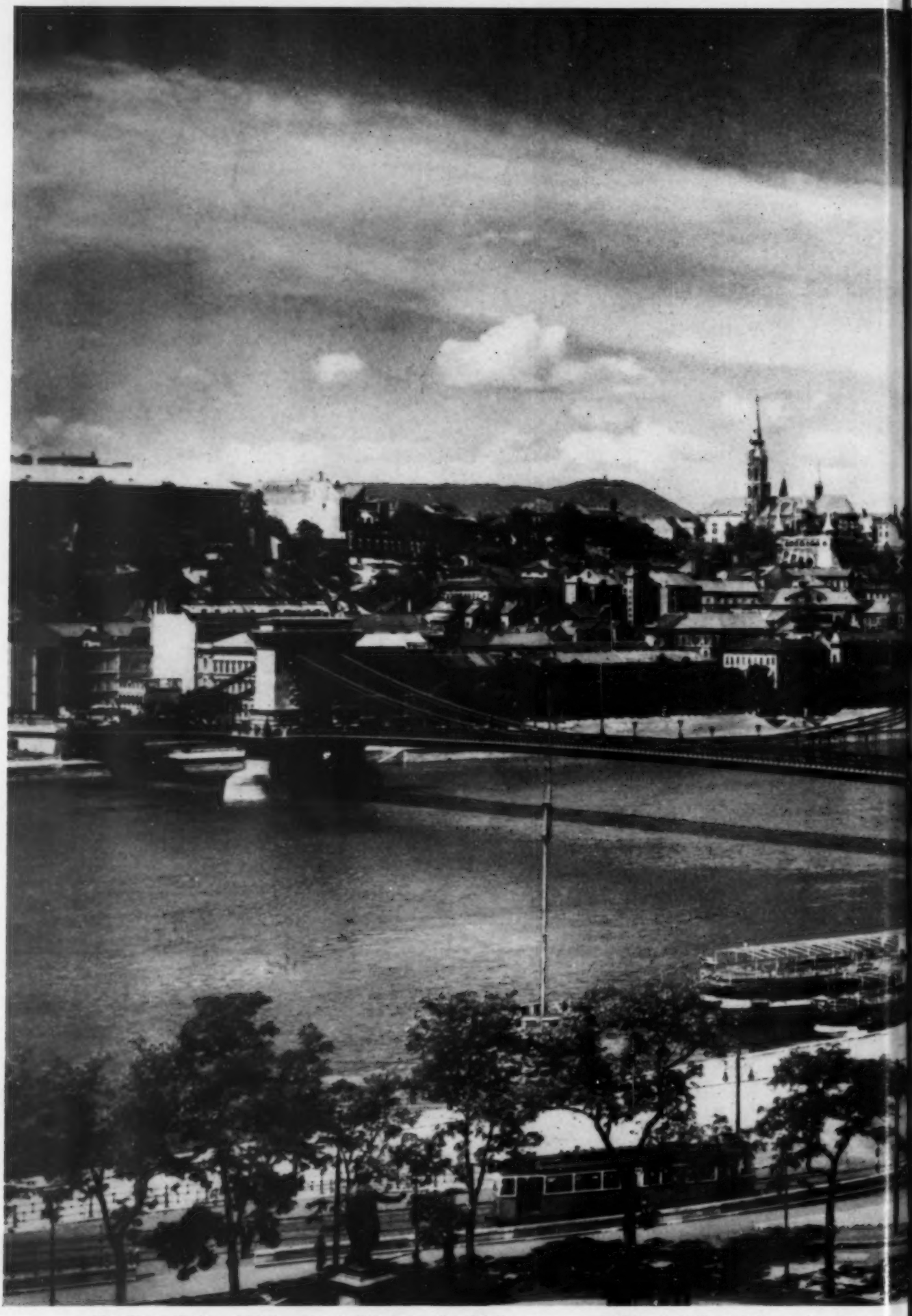
Below:—
Wood-cutters are seen at work in Bükk on the slopes of the highest mountain in Hungary.
T. Munk



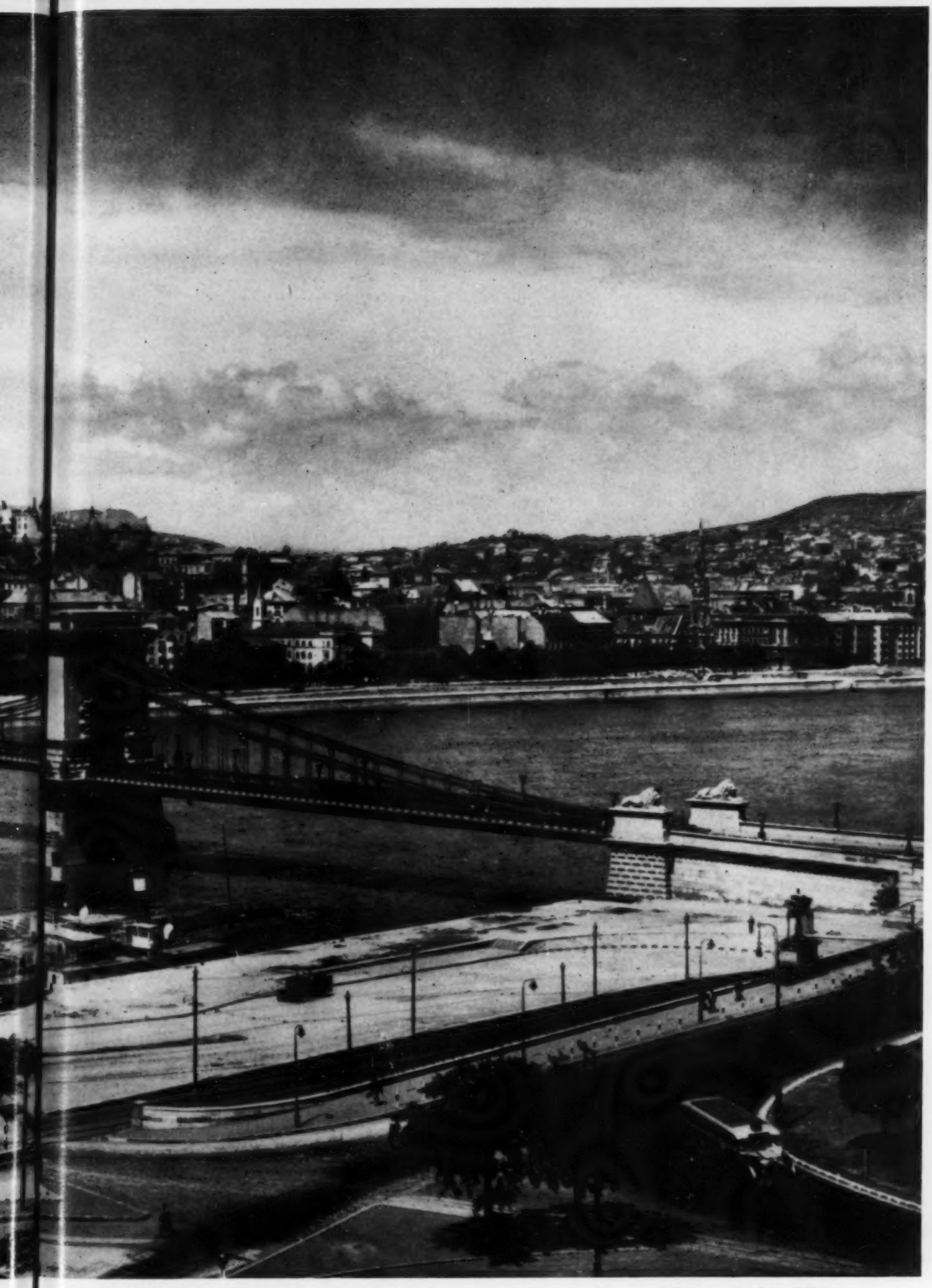
The climate is very favourable to the growth of lavender and these women are gathering in an abundant harvest at Tihany.

Right:—
This central plain has been called the bread basket of Europe. Harvesters at work in a mountain village near Bükk. It is to be noted that the man is using a straight-handled scythe.

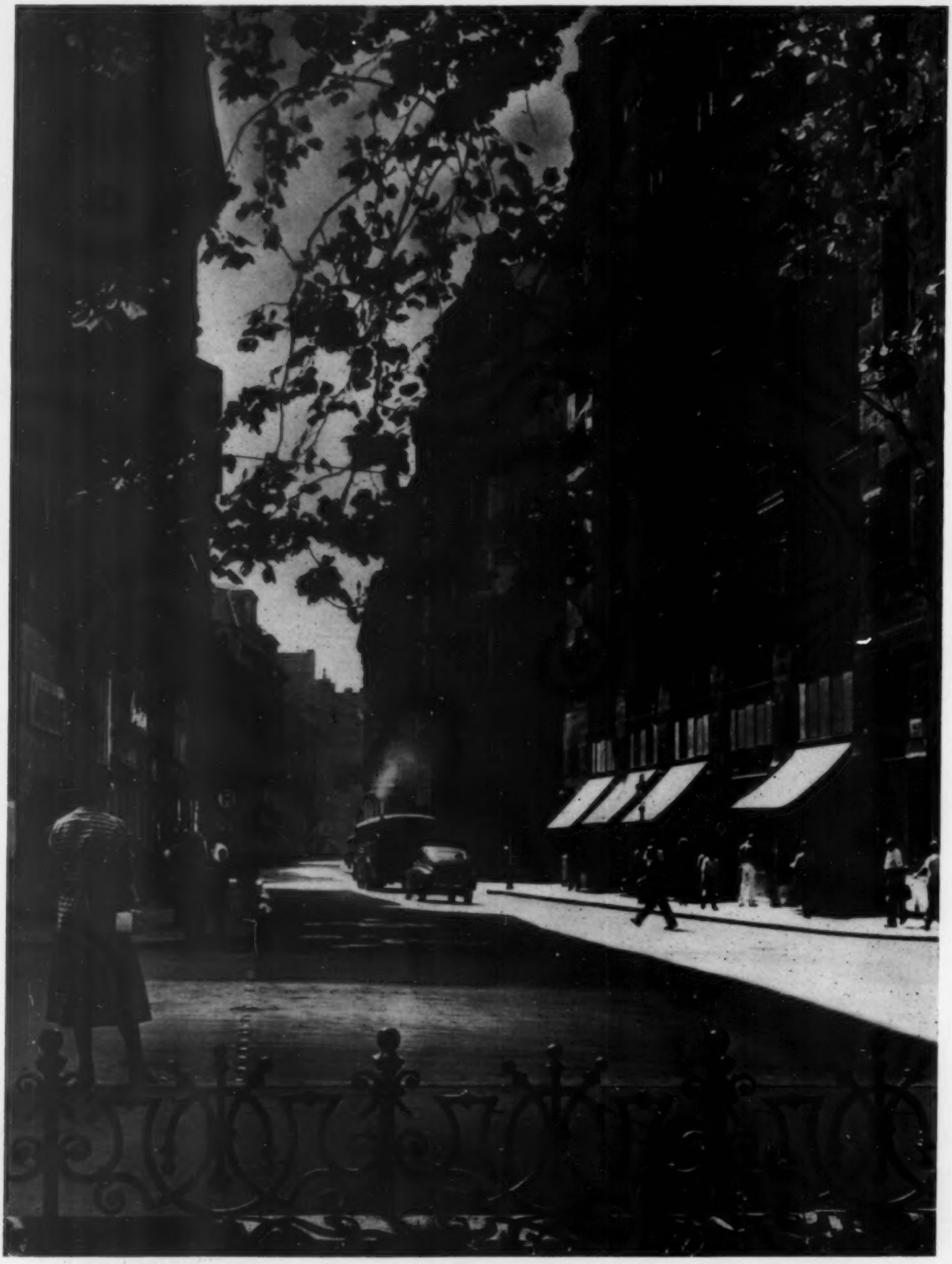
A. Munk



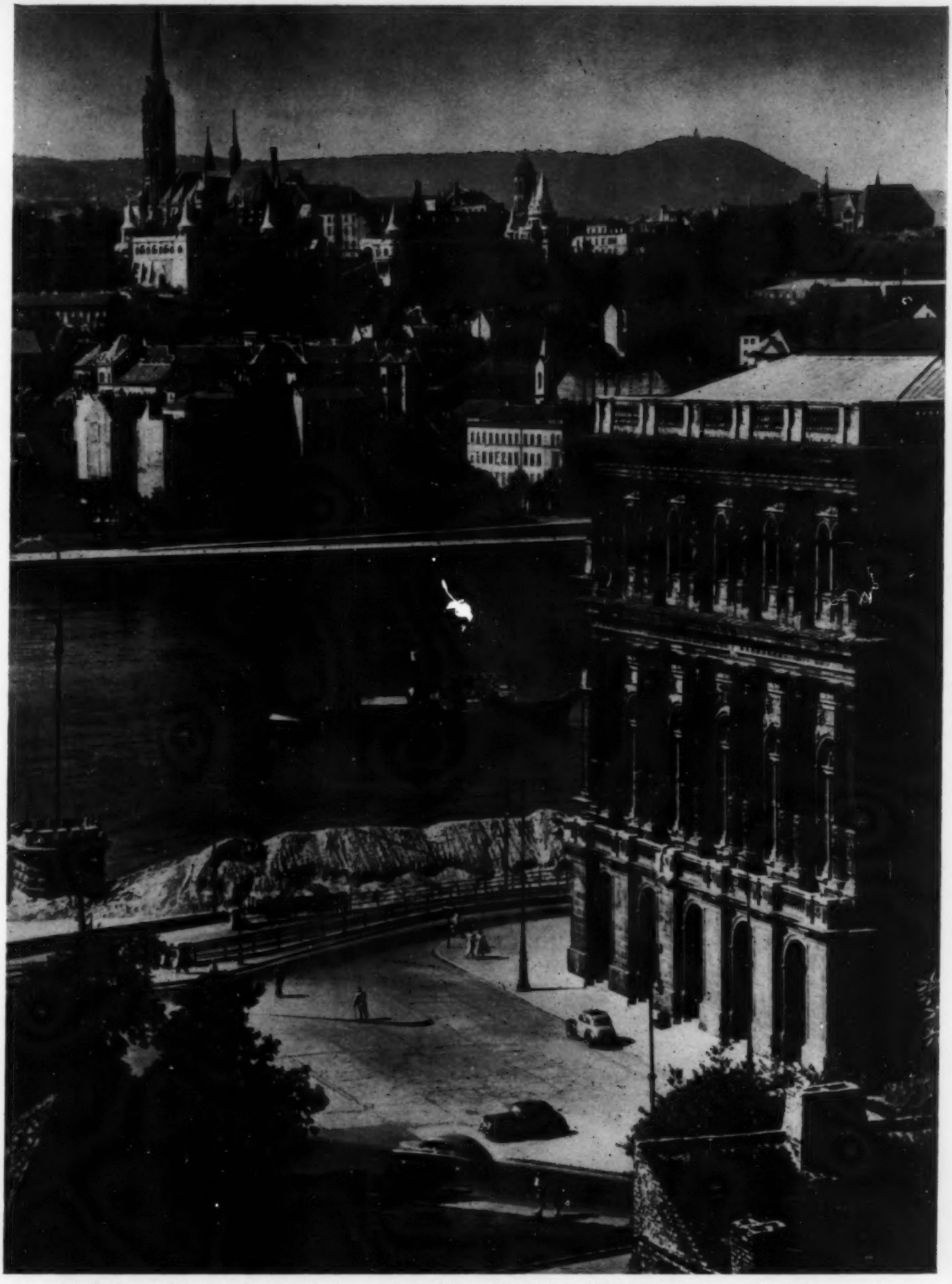
The Chain Bridge of Budapest was first opened in 1849 and was called the world's eighth wonder. It is 375 m and
bridges were broken down during the Second World War



375 m and connects the historical city of Buda on the right bank with the commercial city of Pest on the left. All the bridges of the Danube were destroyed during the Second World War and had to be rebuilt.

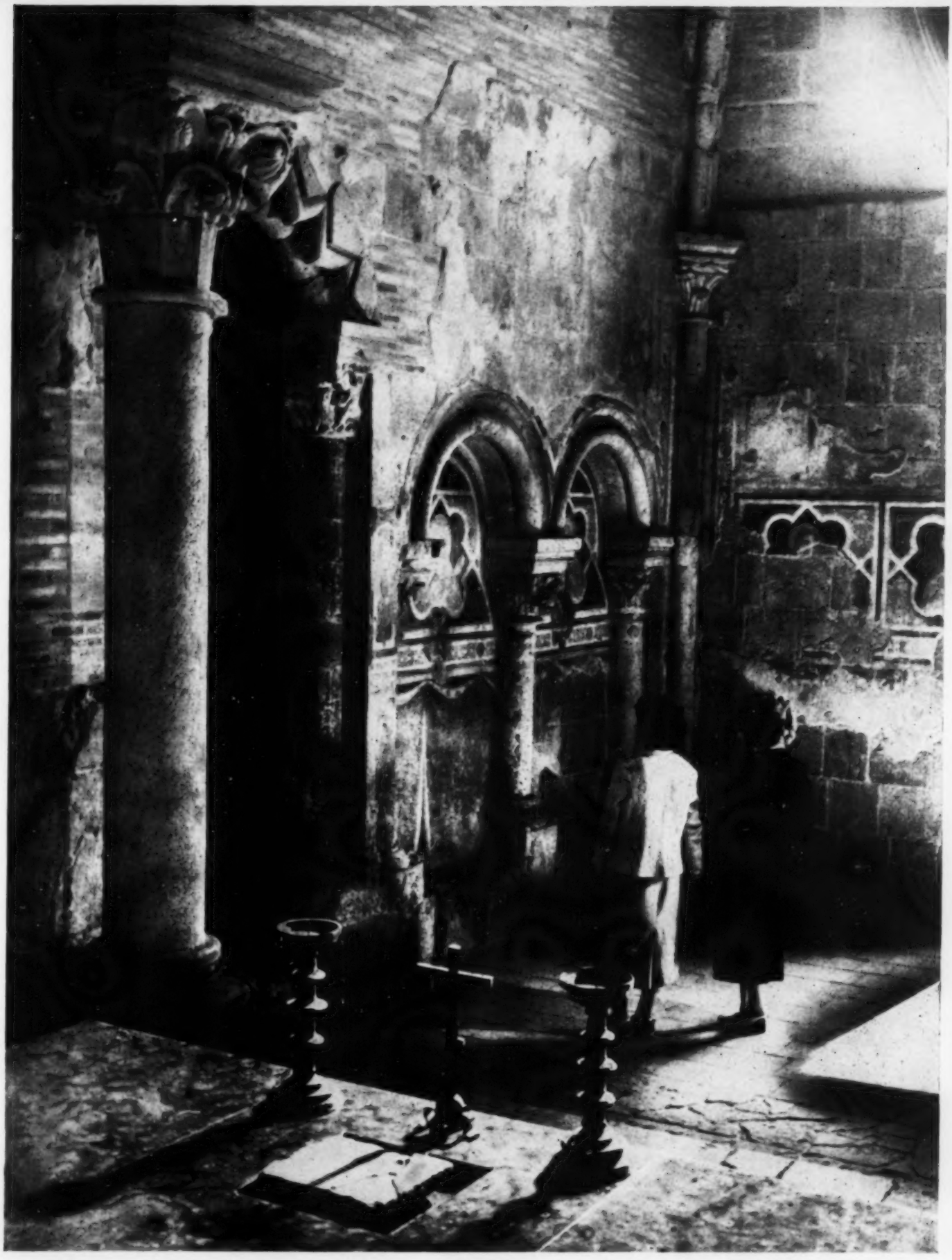


Budapest's Vaci Street leads northward into Czechoslovakia. This part is a typical shopping centre showing some very fine ironwork in the foreground.



The Budapest Scientific Academy is famous for its library dating from 1826. In the background rise the wooded slopes of the Fortress Hill.

This magnificently decorated Franciscan church in Budapest was built between 1690 and 1715 on the site of a Turkish mosque. Its walls are enriched by the work of the famous Hungarian artist Károly Lotz (1833-1904) whose frescoes adorn so many public buildings in Hungary.



The ruins of the eleventh century church in Esztergom, dedicated to Saint Matteo. It dates back to King Stephen, the first Christian king of Hungary, whose embalmed right hand, one of Hungary's most precious relics, is carried through the streets in solemn procession with the utmost ceremony once a year.

T. Munk

An Ontario trapper, his home-built cabin and some of the tools of his trade. A. de Vos

Fur Management in Ontario

by Antoon de Vos and Alexander T. Cringan

Ontario Department of Lands and Forests photographs except where credited.

CANADA has long held an important position among the fur-producing nations of the world. While fur is no longer the major resource it was during the early days, it is still a valuable asset to the economy of the country. Fur is particularly important in northern areas, where it is usually the major source of income of Indians and Eskimos. About 47,000 Canadians trap wild fur-bearing animals for either part or all of their income. Since 1948, the mean value of wild furs produced annually in Canada has been $15,000,000.

Hudson's Bay Company "made-beaver" tokens from Eastmain. The "N" should be "M".
Hudson's Bay Company

Within Canada, Ontario is the leading province in the production of wild furs. During the past seven years, the value of the furs harvested annually in Ontario has averaged about $4,000,000. Currently there are more than 11,000 licensed trappers in the province, of whom thirty per cent derive their main income from the trapping industry.

The important furs of northern Ontario, in the order of their value, are beaver, mink, otter and muskrat. In extreme southern Ontario, the muskrat is the leading fur producer; raccoon, beaver and mink are also fairly important.

Early Fur Trade in Ontario

The history of Canada's fur trade is almost as old as the history of Canada. The period from the discovery of this country until about the turn of this century was one of exploitation. No management other than imposition of open and closed seasons was undertaken.

There was probably relatively little trapping pressure exerted by North American natives before the advent of the white man, as the Indian population was low. Furthermore, furs were of comparatively little value to them as compared with the hides and flesh of larger animals. In northern Ontario, Indian families had extensive areas as their totemic or family hunting grounds.

During the early phases of white settlement some Indian families held two or more grounds, and worked them on a rotation basis. Each area was hunted and trapped for a while, then given a rest.

The search for new supplies of furs strongly influenced the exploration of North America. There was considerable demand for peltries in Europe and, as a result, fur trade was by far the most important business in North America during the initial period of exploration and settlement.

The fur trade in Canada has always been centralized in Montreal. In 1670, the Hudson's Bay Company established trading posts and forts on Hudson Bay, and began trading in furs. This company has the honour of being the oldest business institution in North America. After its establishment, there followed an interesting period of barter. Other furs and store goods were valued in terms of "Made-Beavers" and fractions thereof. "Beaver," in other words, was the standard of currency. Later, the Hudson's Bay Company actually minted and issued gold coins bearing the image of a beaver.

The Northwest Company began fur-trading operations in 1779. After a brief existence marked by struggle and bloodshed with its powerful rival, the Hudson's Bay Company, both companies merged.

The early fur trade in Canada brought about shifts of the native Indian population. It became worthwhile for Indians to move into new territory, for with what were at one time considered valueless or useless furs they could purchase the necessities of life.

Indians soon exhausted the beaver and other fur-bearers from the territories around the early settlements, because of the great demand for furs. Spurred on by the competition between rival fur-trading establishments, they even started minor wars among themselves in their drive to take over new territory.

Trapping was initially done only by Indians, but as North America became settled, it also became a lucrative venture for white men. White trappers started to compete with Indians during the latter part of the nineteenth century. About the turn of the century, trapping pressure became so severe that several species of fur-bearers decreased rapidly and were exterminated over large areas. These included the beaver, marten, fisher, lynx and wolverine. The use of steel traps, which were much more efficient than the traps originally used by the Indians, was responsible for part of the depletion of these species.

Generally, white trappers were not satisfied to trap only the annual surplus of fur-bearers.

Fur trading post of the Hudson's Bay Company at Lac Seul, Ontario.

Hudson's Bay Company

A trapper well equipped for the trail.

Instead, they "mined" the fur resources, and induced by their example, Indians began to do the same thing.

Since fur resources are basic to the existence of our northern Indians and Eskimos, it became necessary for the government to protect seriously threatened species. Thus management of fur-bearing animals commenced.

Governments Stimulate Management

Progress in fur management beyond the restrictive practices of enforcement of open and closed seasons has been made only in the past twenty or thirty years. In Canada the first progressive step was taken in 1925 or 1926, when British Columbia registered its traplines. About the same time the Canadian Government set aside special Indian hunting areas in which no trapping by white men was allowed. These moves eliminated some of the dangerous competition which had threatened to ruin the fur resources.

A movement to conserve beaver was first conceived around James Bay in Quebec by a Scotsman, Mr. J. Watt. His activities received the support of both the Dominion and provincial governments. The local Indian band was protected from encroachment on the band area and encouraged to revert to the traditional methods of trapping and conservation. This band area served as a pilot project, and similar Indian trapping preserves in Quebec and Ontario were set up some years later, administered by the Indian Affairs Branch of the Canadian Government and the Hudson's Bay Company with the co-operation of the provincial governments.

The Indian Affairs Branch of the Department of Citizenship and Immigration is concerned with the management of fur resources, because of the dependence of northern Indians upon them. Dominion aid in fur management began in Manitoba in 1936. The Dominion Government co-operated with the Provincial Game Branch in improving muskrat marshes. Since then, this program of Dominion-provincial agreements has expanded rapidly. It is now operating in all but the four maritime provinces.

In Ontario there has been a Dominion-provincial agreement since 1950. Both governments share in expenditures, but field administration remains under provincial supervision. The arrangement provides for special biological investigations and the transplanting of fur-bearers, in addition to payment of salaries and expenses of field officers.

The Registered Trapline System

Ontario now has the largest and most extensive fur-management program in Canada. It is based on many new concepts. The basis of management is the Registered Trapline — a tract of Crown Land for which the licensed trapper holds the exclusive trapping rights.

The real advantage of a system of registered traplines is that the trappers are assisted continuously. They are invited to attend trappers' meetings which are organized by the Department of Lands and Forests. In an informal atmosphere, seasons and censuses are discussed. Trappers are informed of new developments in fur management and of better methods of handling pelts, which may increase their value twenty per cent or more.

The registered trapline licences require definite responsibilities of trappers. They must present annual returns showing the numbers of all species of fur-bearers taken, prepare maps showing the locations of all live beaver-houses on their traplines, and estimate the numbers of moose, caribou, wolves and certain fur-bearers in their territories.

The registered trapline system was developed in British Columbia between 1924 and 1932. It is based on the government's recognition of an individual's rights to trap a certain area. Registered traplines are now well established, in one form or another, in several provinces.

Registration of traplines in some parts of Ontario took place in 1935. Surveyed townships were usually assigned as trapline areas. This facilitated administration, but was not an ideal arrangement for the trapper. More logical trapline boundaries now follow natural physiographic features such as streams, lakes and ridges of hills. These allow the trapper to cover his ground much more easily and result in a more evenly distributed trapping pressure.

Licences for registered traplines are renewable annually, as long as the trapper meets the regulations and continues to trap. Registered traplines may be sold — an additional incentive to the trapper to manage his line soundly, to build good cabins, and to clean his trail system regularly.

Traplines are now also organized in agricultural southern Ontario and each trapper makes an agreement with farmers on whose land he wishes to trap.

Developments in Fur Management

The major objectives of fur management are the control of the harvest, improvement of the habitat, and the improvement of the quality of the wild fur crop.

Restriction of the trapping season and the take of fur, the most obvious approach to control of the harvest, was the first method to be applied. Recently, quotas have been introduced to regulate the take of certain species. A beaver-quota system of one beaver per colony while a population is increasing, and of 1.5 to three beavers per colony at high population levels, has been used during the past decade. This system aims at allowing beavers to increase to the carrying capacity of their range, and then permits the trappers to remove the annual surplus. Belated action was taken in changing from a quota of ten beavers per licence prior to 1947 to the quota system now in use. At any rate, several outbreaks of disease reported in northern Ontario during recent years suggest that local over-populations resulted from too much protection. In southern Ontario, where beavers were practically absent two and three decades ago, they have multiplied to the point where they now cause considerable damage by flooding roads and railway lines. Efforts to regulate the take of fisher, lynx and marten by apportioning quotas to individual trapping areas have not been fully successful. It is too difficult and uneconomical to take an accurate census of these species, and yet a census must be available for a proper functioning of the quota system.

An important element of management is the setting of the seasons so that pelts are taken in

Trappers making a tour of the trapline.

prime condition. Research has indicated when the various fur-bearers reach the peak in primeness. Seasons are now generally set so that the majority of the animals are caught in a condition as close to primeness as possible.

Special live-trapping and transplanting techniques have been used in the restoration of both beaver and marten populations. When depleted areas are restocked and the introduced animals afforded proper protection, the increase and spread of the populations can be accelerated. Ontario, as well as many other provinces and states, has had success with beaver transplanting. Ontario's marten restocking program, started experimentally in 1951, has shown promising results to date. A high proportion of transplanted populations have at least survived their first few years.

Little habitat improvement for fur-bearers has taken place so far, with the exception of that for the muskrat. Control of water levels generally greatly improves a marsh for muskrats. Ditching also raises the carrying capacity. Improvements like these have been made in several marshes in southern Ontario. Very high yields of muskrats are obtained in this manner.

Man has inadvertently improved conditions for beaver in Ontario: extensive logging operations have created second-growth forests containing greater quantities of beaver food, so the beaver has been able to increase. In the last five years, more beaver were harvested in Ontario than in any previous five-year period. Although habitat changes certainly have been instrumental in raising the carrying capacity for beaver, the phenomenal increase in catch undoubtedly has also been influenced by the

At top:—
Checking for otter sign along a creek. Otters inhabit fast-flowing streams and rivers, where open water can be found in sub-zero weather.

Centre:—
This type of set for a trap is called a "cubby" and is used for marten, fisher and mink. Most trappers examine their traps once or twice a week to guard against spoilage of pelts.

Left:—
Placing a beaver trap in an underwater set. Midwinter is not the easiest time to trap beaver, but far better pelts are taken during that season.

setting of seasons and quotas and the sealing of pelts. The same may apply to fisher and marten. The 1954-5 harvest of 2,915 fisher was the highest in any one year since 1928-9, and the marten catch in the same year also reached its greatest level since 1923-4. Actually, these two species became so rare in the 1930s and 1940s that closed seasons were declared for two years for both.

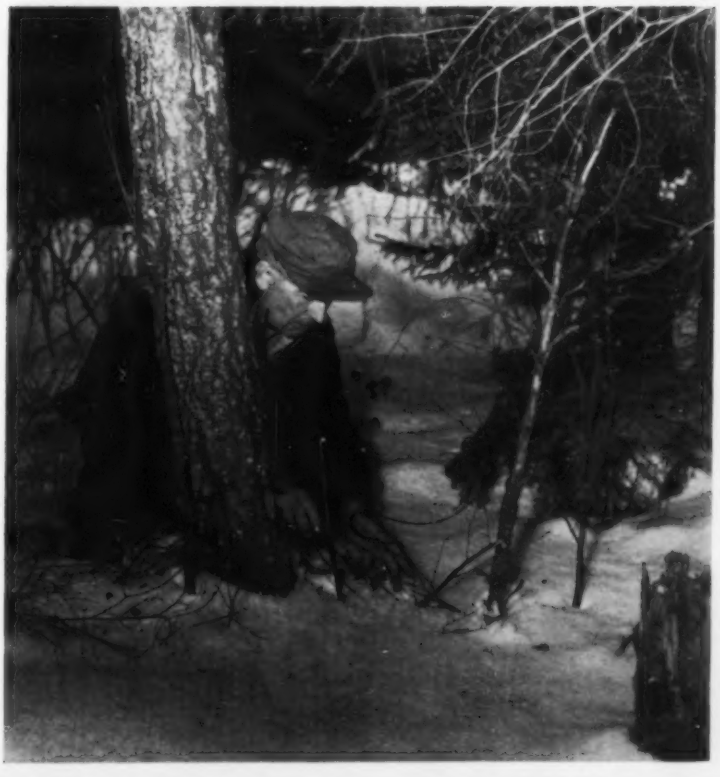
It stands to reason that the government can only do so much in terms of management and that the actual results of management should be gauged largely through the interest of the trapper and the improved quality and quantity of his take.

Trappers who have an understanding of the biological basis for setting open seasons realize why they are set that way. Some set their own season well within those set by regulation in order to obtain pelts in the peak of primeness.

The handling of pelts has improved greatly. Trappers now know that properly degreased, well-stretched, correctly dried pelts bring a premium price. Better scraping knives, stretchers and other implements for handling furs are now available and are widely used.

Trappers, acting collectively through such organizations as the Ontario Trappers' Association, and smaller groups, are learning that they can also benefit by marketing their own furs.

Indians are prospering as a result of modern fur management. Until 1946 Ontario's Indians never earned more than $1,000,000 a year in income from fur. However, during the past few years their income from trapping has ranged between $1,500,000 and $2,500,000 annually, which even considering the decreased value of



At top:—
A large muskrat house. Counts of houses such as these furnish a basis for muskrat management in the larger marshes of southern Ontario.

Centre:—
Setting a trap for wolves. The toothed jaws of the trap firmly grip the leg of the wolf.

Right:—
A trapper adjusting a snare set for wolves.

Trapper placing otter pelt on a drying board. Proper stretching and drying of pelts adds much to their value.

the dollar is a sizable increase in revenue. The residents of Ontario as a whole, the shareholders of this business, have also obtained their share of the profits: increased revenues from royalties on pelts of fur-bearing animals are being received.

Analysis of Fur Production Statistics

Fur production statistics for Canada and its provinces have been presented in publications of the Dominion Bureau of Statistics since 1871. Figures of total production of furs with the exclusion of ranch-raised fur, by species and provinces, have been published only since 1948-9, but provincial totals of both wild and ranch-raised furs by species are available for a number of years previous to this. Fairly accurate estimates of the total value of all wild furs produced, by provinces, have been given since 1920. These are the only available production statistics for long periods of time; although somewhat inadequate, they must be used.

Ontario's relative position as a producer of beaver and otter has improved markedly since extension of the fur-management program in 1947. The province's share of Canada's beaver catch has more than doubled since 1939-40. Changes in the yield of fisher, marten and ermine from Ontario have been somewhat similar to those in the rest of Canada. However, Ontario's increase in muskrat production has fallen much behind that of the rest of Canada, possibly because the other provinces have developed more effective muskrat management programs, or because operators of muskrat marshes in Ontario had already established a relatively efficient harvesting system before the other provinces developed theirs. The effect of fur management on wild mink production cannot be measured because Dominion Bureau of Statistics data for the period 1939-47 include both wild and ranch-raised minks.

Most parts of the province have participated in the beaver boom, which may have been accelerated by the regulation of harvest through seasons and quotas. The increase in otter production has come principally from the Patricia portion of Kenora District, in northern Ontario.

The value of wild furs from Ontario from 1947-55 was about the same as that from 1939-47, while the rest of Canada experienced a seventeen per cent decline in the total value of the wild fur crop. In some provinces, such as Quebec, the corresponding decline was greater. This fact, more than any other, seems to attest the value of Ontario's fur management program. If Ontario's fur crop had decreased in value proportionately to that of the rest of Canada, it would have dropped an average of $625,000 per year for the period 1947-55. This is the net return to the trappers of the province on an annual investment of about $250,000 in fur management by the Department of Lands and Forests. This maintenance of mean annual value of wild furs produced is due mainly to increases in the values of beaver and otter taken each year.

Need for Research on Fur-bearers

Although a few positive suggestions have been advanced regarding the effect of stepped-

up management on increased revenue from wild furs, it appears that in many cases little direct benefit to the trapper can be pin-pointed. In the authors' opinions it can hardly be suggested that we have made much headway in the management of marten, mink and fisher, as well as fox and raccoon. It may be that habitat management for some of these species is not rewarding.

Research on fur-bearers has made some advance; but compared with waterfowl research, it has been neglected. It seems essential for progress in fur management that more research on fur-bearers be stimulated. Not only is the biology of some species inadequately known, but their population structure and interaction between closely related species has also been poorly studied.

The Ontario Department of Lands and Forests has recognized the need for more research by setting up experimental traplines and undertaking special projects concerning beaver, marten and muskrat.

* * *

The authors wish to express appreciation of the assistance given them by Mr. J. L. Grew, supervisor of trapline management for Ontario.

Homeward bound after a circuilt of the trapline, toboggan laden with beaver carcasses.

Back from the trapline, the first stop is the District Office of the Department of Lands and Forests to have pelts sealed.

Shoran Reconnaissance in Canada's North

by F. C. HOEFSMIT

Map and photographs courtesy of Spartan Air Services Limited except where credited.

THE WORD "SHORAN" is an abbreviation for short range navigation, an electronic measuring system used to indicate the distance of an aircraft from each of two ground stations. In flight, the aircraft transmits radio signals to both ground stations, and these signals are received and retransmitted to the aircraft. By automatic measurement of the time required for the signals to travel back and forth, the distance of the aircraft from each station is known accurately. Then, if the shoran dials in the aircraft are photographed at the same instant that a vertical exposure of the ground is made by an aerial camera, the position of the aircraft and the plumb-point of each vertical photograph are fixed by trilateration.

In order to provide a horizontal control for existing and future vertical photography of the north by means of shoran, the combined efforts of Spartan Air Services Limited and Canadian Aero Service Limited were required in connection with a contract for aerial photography of the north for the Canadian Government. The organization required for such an operation is extensive, and before the actual flying can start a network of shoran stations has to be established throughout the area. Field reconnaissance has as its purpose the exploration and location of sites for the installation of these ground stations. This work has been carried out by a team of men who for the past five years have set out from their base at Ottawa early in the spring season to travel north beyond the tree-line into the snow-covered barrens and along the Arctic coast.

In 1956 the shoran operation called for the installation of ten stations. Whenever possible the trilateration network established throughout northern Canada by the Geodetic Survey of Canada was utilized. It was found necessary, however, to establish other stations including two new ones named Hayes and Sherer. The other eight stations were known geodetic sites, and two of the companies' locations established during previous operations.

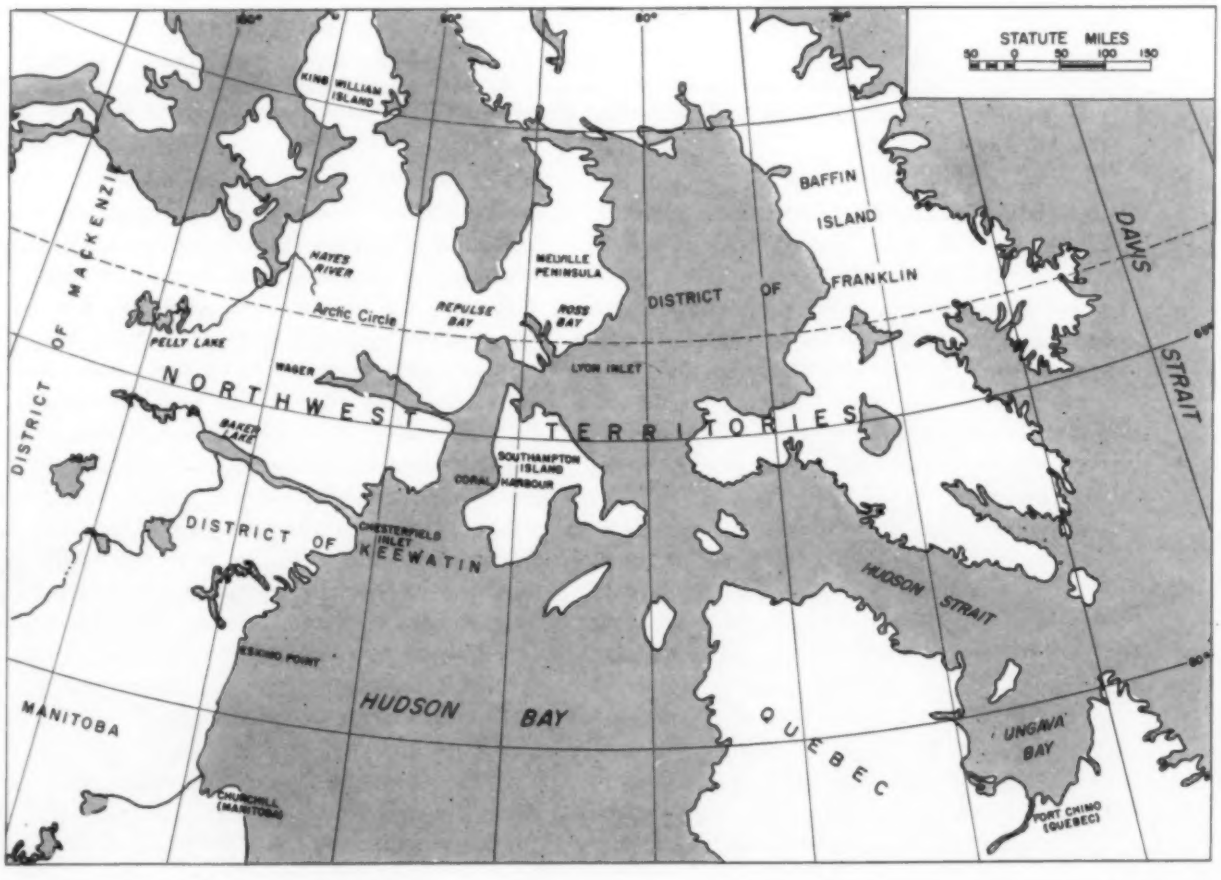
Reconnaissance prior to the installation of a

At top:—The Norseman in which much of the flying described in this article was done. Pilot Rocky Parsons guided the aircraft over the route with regular astro-compass checks, supplemented by great flying skill and common sense.

station is essential in rough country such as the Canadian Arctic, as it gives the basis for the final design of the shoran network. One of the most important requirements is a clear horizon profile so that the site will not be shadowed by terrain interfering with the proposed signal paths. Amongst unknown heights vision may be obstructed by surrounding hills. Low clouds may cover the hill-tops, and fog and snow may cut down visibility so much that further exploration for a proposed site is impossible. Matters such as accessibility, landing facilities for aircraft equipped with skis or floats, haulage distance for about 6,000 pounds of electronic and camp equipment for each station, and the availability of good drinking water are but a few of the problems that have to be considered before a site is chosen. The siting and installation trip from Churchill, Manitoba was started by Spartan Air Services and Canadian Aero Service just north of the 58th parallel. During the Arctic spring, weather can make or break an operation, and that season was exceptionally bad, the snowfall greatly exceeding that of 1955. The lakes were rough with hard-packed snow-drifts, making ski landings difficult, sometimes impossible.

With Rocky Parsons at the controls of a *Norseman*, we flew along the Hudson Bay coast by way of Eskimo Point and Chesterfield Inlet to Wager Bay on the 66th parallel. As the country round Wager Bay shows much contrast, it was not difficult to map-read, so we had no trouble in locating our site. After landing on rough ice we marked the most suitable landing place with a red flag for future use then struggled uphill through hip-deep snow, each by a different path, and after an hour found the geodetic monument marking the site.

Our next stop was Repulse Bay on the Arctic Circle, where we were grounded by adverse weather for several days. We stayed at the



The oldest and most reliable mode of transport in the north — the dog team. At Ross Bay on Melville Peninsula, Spartan Air Services and Canadian Aero Service crews unload sections of a shoran tower after a 170-mile trip in bitter weather from Repulse Bay. Note the lack of contrasts and contours: visibility in the driving snow was down to a few hundred feet.

home of the Hudson's Bay post manager, Ron Milligan and his wife, who showed us heart-warming hospitality. During our stay we made several attempts to reach the proposed new site near Sherer Inlet, but we were forced to return to base owing to low clouds over the hills and snowfalls that cut down visibility. With no sign of weather improvement in sight we decided to move to the west and to site Sherer on the return trip.

Flying west from Repulse Bay to Hayes Lake gives a vivid impression of the heavy snow coverage. For hundreds of miles the barrens were white without even a rock showing through the snow. To fly a true course, regular checking with an astro-compass is about all one can do. The rest depends on common sense and experience. Upon arrival over Hayes Lake the approach of very bad weather forced us to land and we camped on a small lake. We made conditions relatively comfortable by digging our tent deep in the snow and piling snow blocks round it. Then, fortified by tea and a hot meal cooked on our primus stove, and having washed up the dishes in the remaining tea, we surveyed the surrounding hills. With the heavy snow coverage it was hard to discover if there were any lakes that would provide suitable drinking water, near the proposed site. Low clouds enveloped the hill-tops, making further surveying impossible, so we walked back to camp, and despite a temperature of 28 degrees Fahrenheit below zero, we were comfortably warm in our specially designed sleeping bags. The next day the same weather conditions prevailed, so we again decided to postpone further survey of the station site till our return trip, and to start at once on the installation of our western stations from Pelly Lake, where we have constructed an air-strip in the middle of the arctic desert.

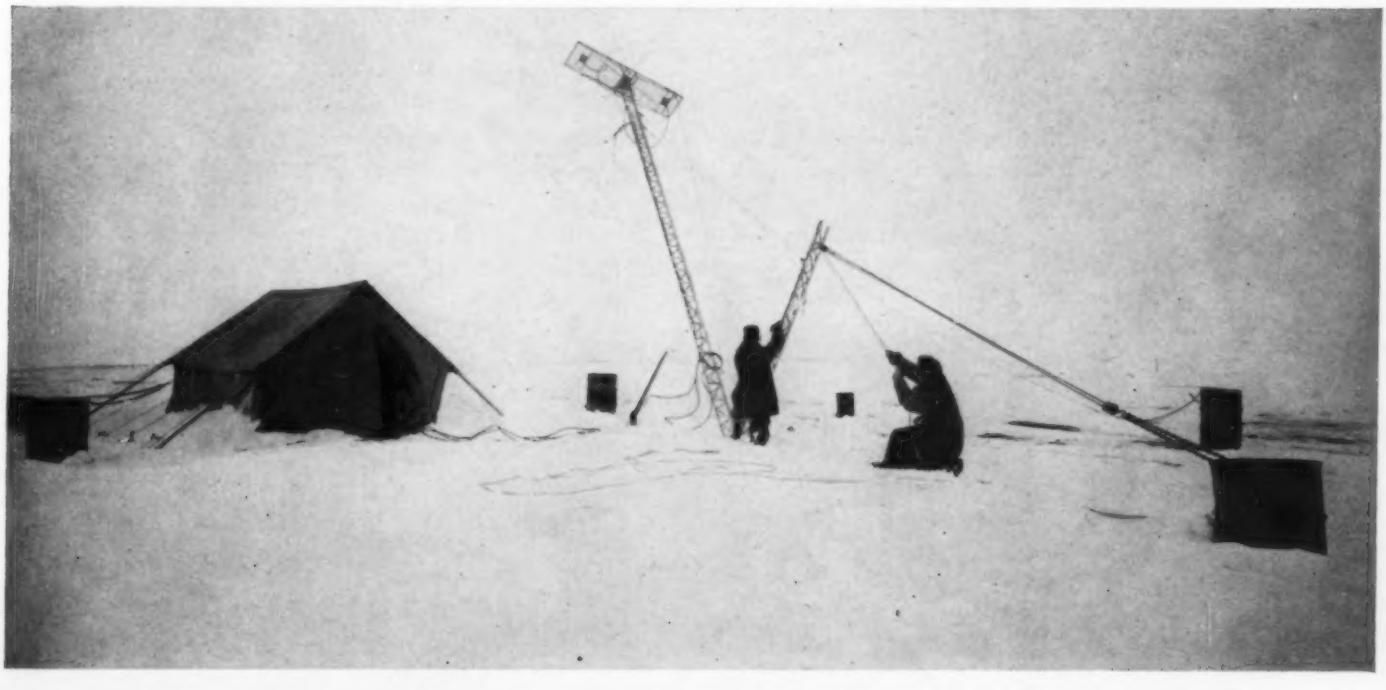
The equipment for the shoran stations was

flown in from Churchill and stacked in a snow-covered pile along the landing strip. Much work was involved in preparing the loads for the installation flights. A *York* aircraft had broken through the runway and our *Norseman* had to land on the lake beside the camp. We had only one dog team with which to haul all the shoran equipment and countless drums of gasoline for the aircraft from the main camp to the lake. After a couple of trips to the Arctic coast and King William Island, the *Norseman*'s tail ski assembly was damaged during a take-off from the rough surface of the lake. It was replaced by a DC-3, but during a rough landing on Upper Back River the front cables of both skis were broken and another *Norseman* was supplied to complete the installation of the western stations.

We then headed back east across the barrens to investigate the area around Hayes Lake. The ice surface was too rough for a *Norseman* to land and the weather was against us, so we landed on the same spot as before and camped another day till the weather improved enough for take-off. We had to accept a new site on the hill we had explored before in spite of the fact that it was a four-mile walk from the landing place. After a flight across the barrens we landed on the bare ice of Repulse Bay. The skies retained their dull greyish look, full of unpleasant promise of more snow. Looking east from the Hudson's Bay post, we could see the hills of Melville Peninsula along the horizon, blanketed with low cloud, just as they had been during our last stay. We became depressed as time was running out, and weather improvement seemed far away. Ron Milligan tried to talk me into the use of dog teams, jokingly at first, as I felt sceptical about using dog teams to transport 6,000 pounds of electronic and camp equipment over rough country to a spot we had not even chosen. Finally, however, he persuaded me to try this, the oldest and most reliable means of transportation in the north. With the help of Ron, I hired three Eskimos and two dog teams for the 170-mile trips to Ross Bay and back. According to my Eskimo guide, Lionel, each team of fourteen dogs could easily pull a sledge load of approximately 1,700 pounds. I knew something of the country round Ross Bay and Lyon Inlet and was therefore watching the loading of the two sledges with a doubtful eye. Load limits and dog power, however, have practically no meaning for an Eskimo, and I was amazed when I saw the two sledges packed and neatly tied down, each loaded with 1,700 pounds.

On setting out next day, it was hard to get the sledges started. The method used was to pull back on the harness, and then to let go with a jerk, at the same time pulling the sledge sideways. This eventually set them in motion and away the teams went, with us running beside them and jumping on the load when we

Another shoran tower being erected to aid Spartan Air Services and Canadian Aero Service in aerial photography in the wilderness. A network of radio receiving and transmitting stations assists the the Ottawa-based companies in their efforts to increase knowledge of Canada's north.



In lighter vein—two members of the shoran reconnaissance team pose as hitch-hikers in the snowy wilds.

could. The Iviliks around Repulse Bay drive their dogs in a fan formation with sealskin traces of varying length. Each dog is tied to a separate trace and they spread out in the shape of a fan in front of the sledge; but we had to stop at least once an hour to untangle the traces. For hours we travelled over sea ice, following the coast past Harbour Islands into Havilland Bay. Lionel and I were seated on the first sledge; he spoke very little English, so most of the time we sat in silence, grinned at each other, or smoked cigarettes. He pointed out the breathing holes of seals, and once we saw a big flipper, but it slid back quickly into a hole at our approach. The only sounds were the thumping and bumping of the sledges over the rough ice and the "aouk, aouk," call from Lionel when the dogs wandered to the right, and the "huhk ehk, huhk ehk" if they strayed to the left. Now and then, when one of them tried to shirk pulling, Lionel used a long sealhide dog whip very skilfully and effectively.

After journeying for six hours with a brief halt for tea, the trail became more difficult because pressure ridges had broken the surface of the sea ice badly. Finally we turned inland and climbed steadily towards a valley which ran through the hills to Ross Bay. A gusty wind, snow and drizzle hindered our progress and cut down visibility to a few hundred feet. Travelling through a greyish medium with no contours, contrasts or dimensions, one loses all count of time and sense of direction. It was past midnight when we reached the hills and entered a deep valley to make our second stop close to a meat cache. We lit our primus stove behind a circular wall made of snow-blocks and made tea while our Eskimos went to the cache for large chunks of black whale meat which they tied to the sledges and then we went on again. To keep ourselves warm we often ran beside the sledge but when going downhill we could not keep up with the dogs and had to jump back on the sledge again.

Twenty hours after leaving Repulse Bay we halted and made camp behind a rocky hill, but the wind seemed to come from all directions. My companions first anchored a long dog chain at both ends, then unhitched the dogs and tied them one by one to the chain. We unloaded the sledges, propped them upside down on snow-blocks, setting our tent between them, and using boxes to fasten and secure the tent lines. The floor we covered with caribou skins. While the others were feeding the dogs with whale meat, I started to cook our meal, and though our Eskimo companions enjoyed it, they preferred frozen chunks of raw caribou meat which they carved with a special knife and popped straight into their mouths. After tea, we crawled into our sleeping bags. The next day in a howling wind we took down the tent and prepared to leave. Before repacking the sledges the ice glaze on the runners had to be renewed. The wooden sledge runners are shod with iron or whalebone. Ours had iron shoes, with an inch layer of frozen mud and a thin glaze of ice. Bumping about on glare ice or hitting hidden rocks will cause damage, so the runners have to be patched about twice a week and the ice glaze renewed almost daily. The sun made brief appearances during the day and the grandeur of the hilly country through which we were travelling became visible. After another eighteen hours we made our second camp. The wind was still howling so that it took us over two hours to pitch our tent and we had to haul up large pieces of rock in order to secure it. The dogs made a chorus to the wind and both howled together for hours.

The next day we reached Ross Bay. On the steeper hills, the sledges overtook the dogs, so we had to unhitch them and let the sledges

slide downhill by themselves. My heart stood still as I watched the electronic gear careening downhill and gaining speed with every yard. I explored the southern shore of Ross Bay in the direction of Lyon Inlet and climbed several hills, all over 1,200 feet high, but visibility was poor and it was hard to discover if any good drinking water was available. Ross Bay itself is salt-water. At last I found a hill higher than the others with a frozen stream of good water close by, about ten miles from the site originally planned. Here we unloaded the sledges and made camp.

The next morning in miserable wet snow we started back on our two-day return journey to Repulse Bay. On arrival we gave the dogs a day's rest and then started out again with our second load. Except for bringing in the operators, the complete station was installed with two dog teams in two trips. A small team was standing by at Repulse Bay to transport the operators to the station as soon as they arrived by chartered aircraft from Coral Harbour (Southampton Island).

In the meantime Rocky Parsons had looked after the installations at Hayes Lake and Wager Bay. They were nearly completed when we finished the installation at Sherer. In another week the shoran network was ready for operation. The reconnaissance and installation of the station had taken two months, more than thirty days of which had been wasted by weather conditions.

All over the world shoran reconnaissance and installation crews work the year-round in all conditions from Arctic barrens to the heat of tropical jungles to add to the storehouse of knowledge about the world we live in.

Two Spartan aircraft — a shoran Lancaster in the background, and a high-altitude Mosquito-35 used for photography.

George Hunter

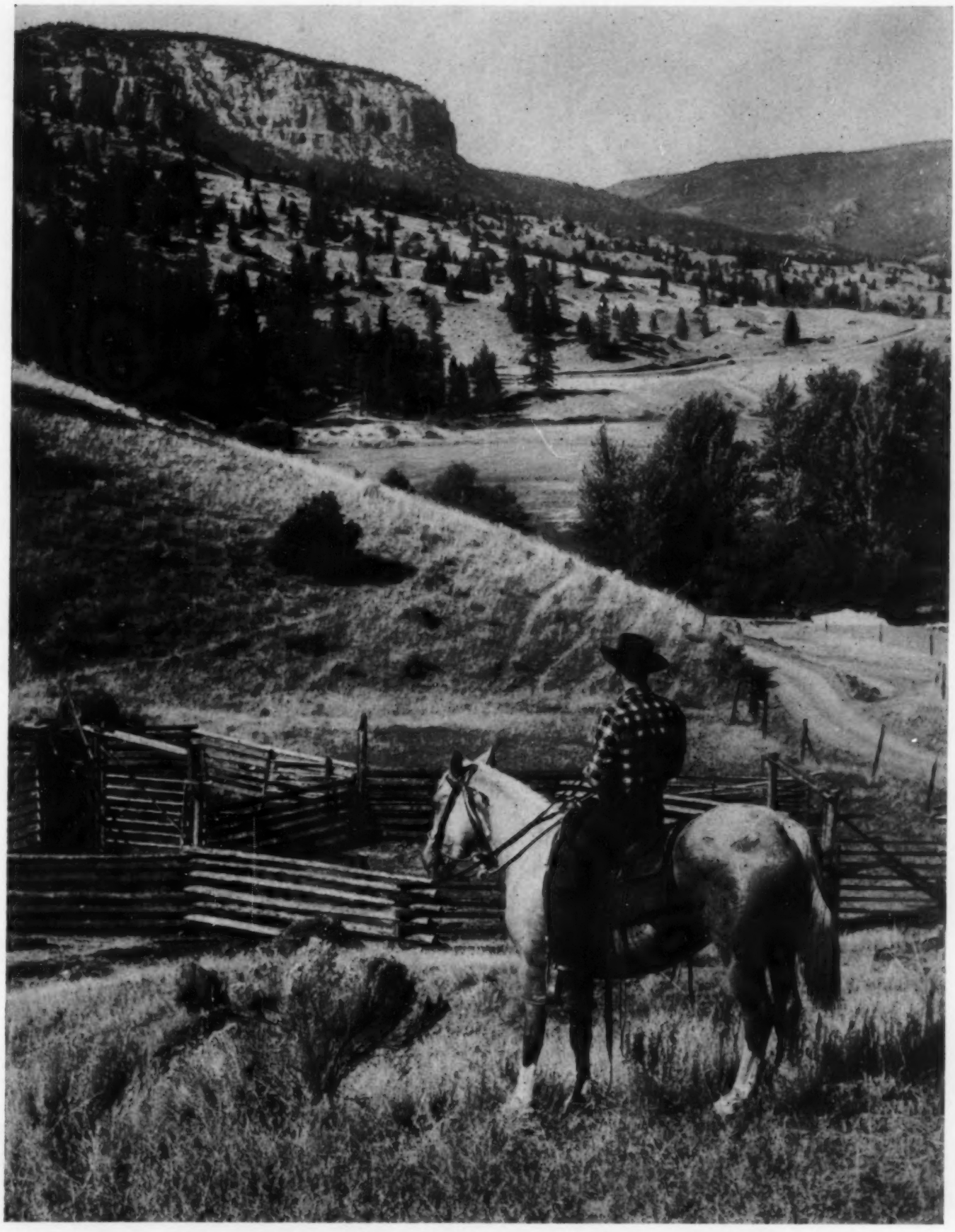
In The Kamloops District of British Columbia

Photographs by DONOVAN CLEMSON

THE UNDULATING tableland of the Interior Plateau of British Columbia in the region of the Fraser and Thompson Rivers is cut by deep valleys adjoined by bench lands. Sheltered by the Coast Range, the area receives a limited amount of precipitation and its seasonal ranges in temperature are wide, compared to those of the coast; but it is blessed with bright sunshine and bracing air.

These photographs were taken in the Kamloops District. The busy city of Kamloops lies at the junction of the North and South Thompson Rivers. The latter, which has its source in Shuswap and Adams Lakes in the Monashee Mountains, flows smoothly across wide stretches of range land past wooded hills to join the North Thompson at Kamloops and form Kamloops Lake. Near Ashcroft the river turns southward and, after rushing through a massive gorge, at the village of Lytton merges its glacier-fed waters with the silt-laden ones of the mighty Fraser River.

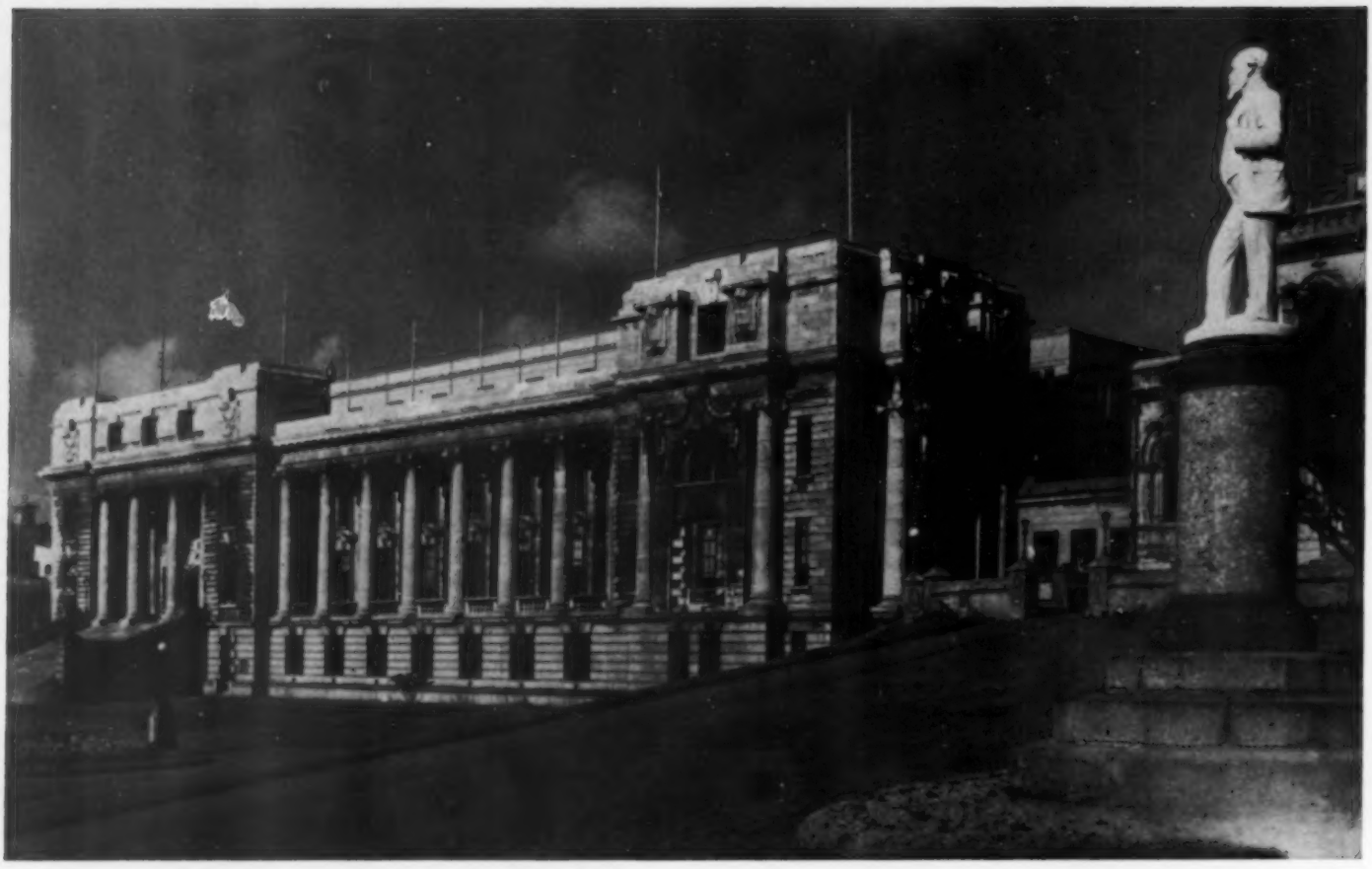
Above:—A pioneer settler's cabin in the Salmon River Valley of Kamloops District. This log cabin is typical of the early homes of woodsmen and homesteaders. The logs are chinked with clay and the roof covered with shakes of split cedar.



A cowboy surveys ranch land in Deadman Valley, which lies in the picturesque but semi-arid Thompson River area. These hills provide early spring grazing for cattle. The summer range is at higher elevations where good grass is available. The small irrigated meadows in the valley produce hay for winter.

The Thompson Valley east of Kamloops. Before the Canadian Pacific Railway was built, the South Thompson River was important as a waterway. It is navigable from Shuswap Lake to Savona on Kamloops Lake.

Opposite:—An enchanting glimpse of the country where the South Thompson River has its source. Luxuriant stands of willow and aspen line the banks of the Shuswap River, which flows into Mara Lake and gives access to the fertile Okanagan Valley. This placid stream was navigated by early settlers.



New Zealand

— The Long Bright Land

by LEN WILKIE

AOTEAROA—The Land of the Long White Cloud*—is the Maori name of that land "down under" that has been acclaimed by some of this century's poets and many of its travellers as a place of enchanting loveliness and unique charm. Much of New Zealand's tradition is based upon Maori culture, for the white man or *pakeha* has tilled the soil and used the pasture lands for only a brief one hundred years. To him it is "God's Own Country". To the visitor it seems Utopian, with landscapes of exquisite beauty—tranquil and serene, grand and majestic—or a place of haunting mysteries, strange and eerie.

When Abel Tasman, the Dutch navigator, discovered New Zealand in 1642, the islands were already the home of the Maoris, a Polynesian race that had migrated centuries before and established a civilization and culture of a very high order.

Folk lore of the Maoris discloses that *Aotearoa* was first discovered by the Maori chief, Maui, about the eighth century; was rediscovered by the explorer, Kupe, in the tenth century; and was finally claimed and colonized by the chief, Toi, about 1200. The latter is believed to have come from an island near Tahiti, travelling by canoe with many of his tribe in search of his grandson, Turahui, who had been lost in a canoe race a long time before. They sailed for many months with only the stars as guide and eventually reached the shores of the North Island. There they separated, each canoe-load finding a pleasant place to settle and establish a *pah* (fort) and tribe of its own. Organized migration is believed to have begun about 1250 and to have ended with the arrival of the "Great Fleet" of Maori canoes in the fourteenth century. They were a warlike people, fighting among themselves. The strongest tribes prevailed, often driving the weaker ones to less favoured areas.

On their arrival the Maoris discovered that

*Aotearoa, translated by early scholars as "The Land of the Long White Cloud", is now often translated as "The Long Bright Land".

Above:—The Parliament Buildings at Wellington, New Zealand. In the right foreground stands a statue of Richard Seddon, Prime Minister 1893-1906.

New Zealand already had some primitive inhabitants. These the Maoris called Moriori or "inferior people". Most of them were soon defeated and driven out, the remainder exterminated or absorbed into the Maori population.

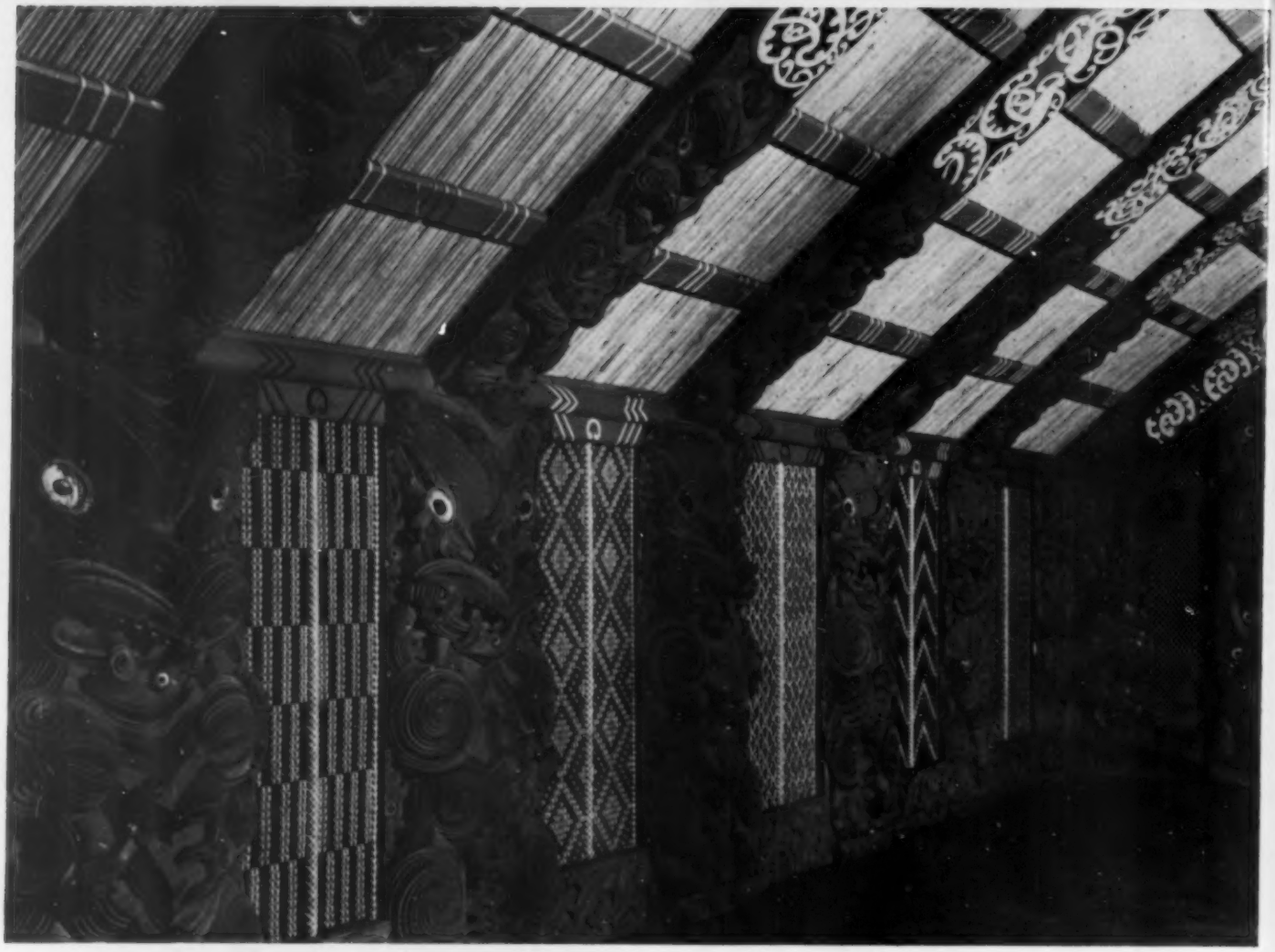
Later when white men, led by Captain James Cook in 1769, came to these shores, difficulties arose. Captain Cook made friends with many of the Maoris; but other white settlers during the following century aroused enmity by their acquisitive ways. Most of the troubles were caused by land disputes — the white man taking what the Maori considered was rightly his. Wars raged for many years. In 1840, by the Treaty of Waitangi, New Zealand became a British colony. Ninety-one per cent of the present population of two and one-half million is of British stock.

This land of the South Pacific lies between latitudes 34 and 47 degrees south of the equator. There are three islands—North, South and Stewart in the extreme south. North and South Islands are each roughly 500 miles in length. No place is more than 100 miles distant from the sea. The numerous small fiords on the west coast of the South Island and the long range of mountains running down its length greatly resemble the fiords and mountains of Norway. Snow-capped Mount Cook or Aorangi (12,349 feet) is the highest peak. Here can be seen glaciers that fall to the green forest's edge to feed lakes that lie like sapphires, reflecting the sparkling sun and sky. Franz Josef Glacier is one of the lowest-lying in the world. It descends 8,000 feet in eight and one-half miles to within 700 feet of sea level. The largest glacier, Tasman, lies below Mount Tasman (11,467 feet) on the eastern side of the Mount Cook Range.

In the North Island there are active volcanoes—Ngauruhoe and Ruapehu. Ruapehu was quiet for many years, then a few years ago the lake in its crater became very agitated and great volumes of steam and boiling mud were shot into the air. Mount Egmont (8,260 feet), extinct many hundreds of years, stands near the west coast in solitary splendour, a towering almost symmetrical cone.

From the highlands rivers wind their way down slopes clad with rimu and beech trees and fringed with tree-fern or manuka, sometimes over thundering waterfalls, to the sea. Sutherland Falls in the South Island are 1,904 feet high. A number of the rivers are used for hydro-electric development. There are many

Wellington, the capital city, and its harbour, as seen from Tinakori Hill.



The interior of a Maori meeting house preserved in the Dominion Museum at Wellington.

Detail of elaborate curvilinear carving shown above. The Maoris are famous as artists in wood.

lakes of great natural beauty, the largest being Taupo in the North Island, famed as a trout-fishing and tourist resort on the edge of the hot springs country.

The climate is always temperate. On the hottest day of summer, the thermometer at midday rarely rises above 80 degrees Fahrenheit. The mean daily temperature in winter ranges between about 50 degrees Fahrenheit in the Auckland area of the North Island to about 36 degrees Fahrenheit at Dunedin in the South Island. Frosts are experienced inland some nights during June or July, mostly south of Auckland. But the seasons are so vaguely defined that what should be winter (May, June and July) can sometimes produce a day "out of the box" with sun so hot that summer clothing is not out of place. Christmas comes during the longest days. It is a time of picnics, haymaking, bathing and vacations.

With all its eccentricities of nature, it

seems strange that New Zealand should be sung of as a land "where horses have wings and bees have no stings". However, there are no snakes, no poisonous insects (except the Katipo spider which is rarely encountered), and few wild animals. The only native mammals are two species of bats. Among the introduced animals is the goat which, having escaped captivity in the early days, now is prolific in the mountain regions, as are also the chamois and deer which have their habitats in the South Island. Rabbits, brought in originally from the United Kingdom, have multiplied to such an extent that they are now a serious pest. In the bushlands the wild pig abounds, a relic of the days of Captain Cook, who gave pigs to the Maoris in exchange for kumaras and fish. They, too, have become a menace from the point of view of farmers, because they eat new-born lambs. Rats and dogs arrived with the early settlers also.

Over 200 species of birds, both native and migrant, live in the islands, some protected in bird sanctuaries. One of these is the strange wingless kiwi, with hairlike feathers. Extinct now is the large wingless species known as the moa; but the *takahe* or notornis, a rare swamphen, is carefully protected in a closed bird sanctuary near Lake Te Anau and there are now about 100 of them in existence. Pigeons, parakeets, kakas and keas are native to both islands.

The tui and bellbird are loved for their rich and melodious notes. Indeed, their songs are among nature's most lavish gifts to the country. The first call at dawn is faint and high; then come waves of gentle sound, gradually growing louder and louder as the songsters awake, until every tree is reverberating with the tinkle of thousands of sweet bells accompanied by the deep and glorious harmony of the bellbird's chiming note.

Alpine flowers grow abundantly in the Southern Alps. The lovely edelweiss with its silvery white foliage, the daisy-flowered celmisia and the anemone-like blossom of the mountain lily are among these. The starry flowers of the white clematis festoon the edges of the forest in early spring, their delicate snowy garlands reaching to the tops of the tallest trees. The Maoris have named it *pua wananga*, sanctified flower. The shores of Lake Taupo are made lovely when the kowhai tree breaks into bloom. Birds haunt it for the rich honey found in its golden heart.

In the north of the North Island all kinds of sub-tropical fruits and flowers grow in abundance: grapefruits, lemons, oranges and passion fruit, white hibiscus and bougainvillaea.

Living in corners of this well-favoured land are the Maoris. Such lovely places as Tauranga, Raglan, Nelson and Otaki are old favourites of this race. Here the strongest tribes, having driven their enemies and the weaker tribes to less desirable areas, grew their kumaras (a kind of sweet potato), fished for eels or went on bird-hunting and rat-hunting expeditions. The thermal regions of Rotorua are also thickly populated with Maoris. They take advantage of the boiling mud and hot water to do their cooking. And they act as guides, showing visitors the wonders of geysers, blue and green lakes, pink terraces and sulphur springs.

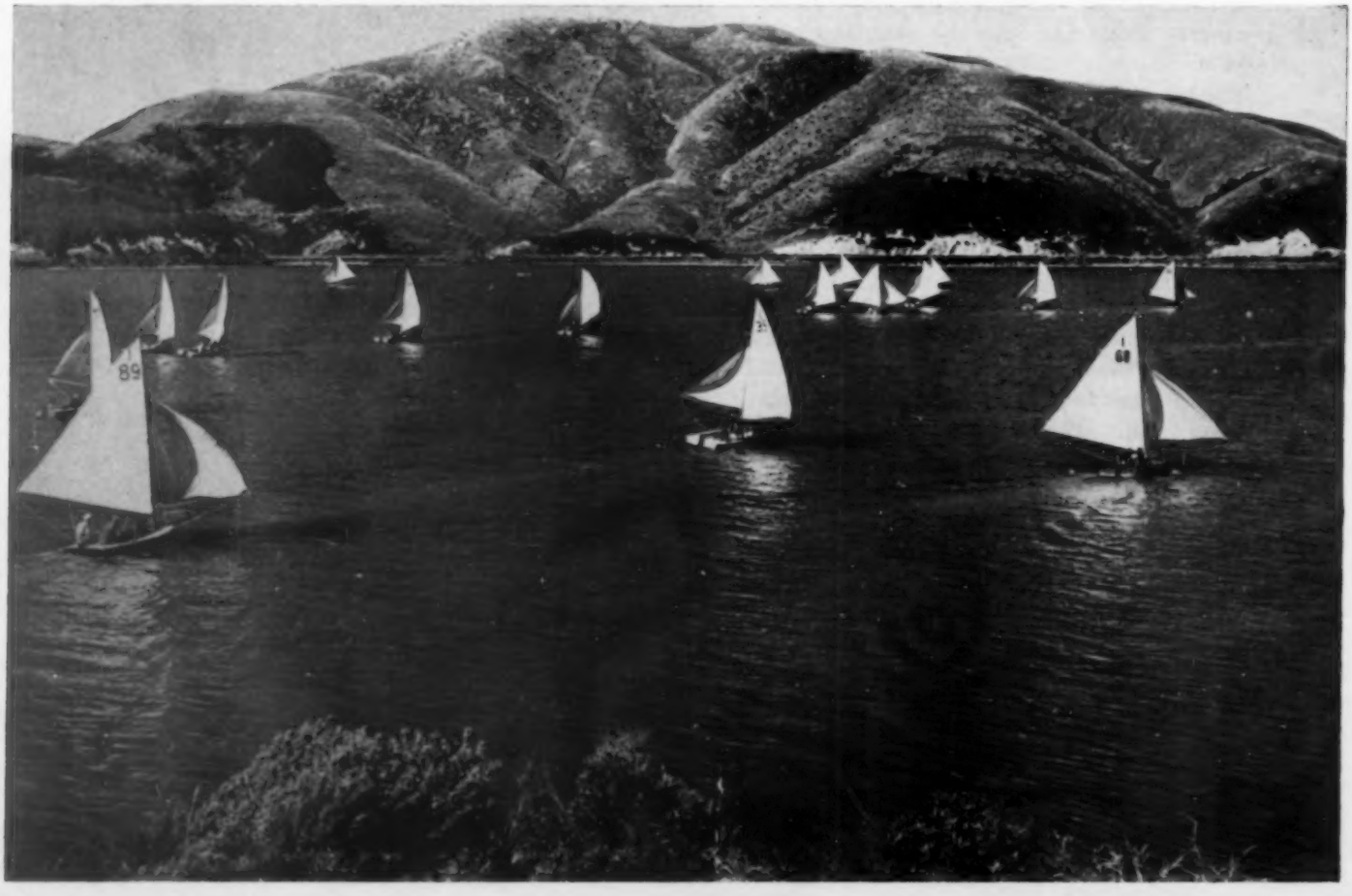
The region around Rotorua (and most of the North Island) is subject to earthquake shocks. Indeed, Rotorua may be said to be the safety-valve for volcanic activity. On 10 June 1886 Tarawera erupted, destroying the famous pink and white terraces and burying a Maori village. Other disasters occurred in 1855 when a severe earthquake in Wellington raised the ground six feet; in 1928 when the Murchison earthquake in the South Island levelled a mountain and buried a village; and in 1931 when an earthquake wrecked the city of Napier on the east coast of the North Island.

Near Te Kuiti on the west coast are the Waitomo Caves. Here one descends far below the level of the ground to an underground river. A boat takes passengers along this strange dark waterway. It is a memorable experience, for the whole place (if no sound is made) is lit up by millions of tiny glow-worms adhering to the ceilings of the caves. Stalagmites and stalactites, which have taken thousands of years to form, meet in majestic white columns on both sides of the immense caverns.

The four largest cities of New Zealand are Auckland, the commercial centre, (population

Forest-clad Stewart Island, smallest of New Zealand's three main islands, lies off the southern tip of South Island. A view of picturesque Half Moon Bay on Stewart Island.

Love of the sea and ships is characteristic of most island dwellers, including New Zealanders. Sailboats race for the buoy during an Easter regatta.



Along the coasts of New Zealand there are numerous excellent bathing beaches. Wainui Beach, near Gisborne, on the east side of North Island.

Sheep mustering in Marlborough provincial district, North Island. This flock was driven over hills and through gullies for fifty-four miles.

An aerial view of Porirua Arm, an inlet about twelve miles north of Wellington.

381,000), Wellington, the capital (224,400), Christchurch (193,400), and Dunedin (99,400). These all have good natural harbours, the first two being exceedingly fine and of great beauty. Wellington is built on many clustering hills, with marine drives curving round the waterfront below. Picturesque homes and gardens rival each other for pride of place in precarious positions on the slopes and heights overlooking the bays. Auckland, the most cosmopolitan city in New Zealand, has a very attractive setting. Pleasure yachts lie in quiet bays where placid waters reflect the brilliant scarlet of the pohutukawa tree. Mounting the hills on the ascending terraces are the citizens' homes, with orange and green roofs and large year-round gardens.

Moisture-laden winds blowing over the Tasman Sea result in abundant rainfall on the coast west of the mountain ranges. The verdant pastures of Taranaki in the North Island and Westland in the South Island have made New Zealand famous. Herds of pedigree cattle browse here the year round. The country's

Fox Glacier on South Island, with Chancellor Ridge, Chancellor Dome, Pioneer Ridge and Douglas Peak in the background.

sweetly flavoured butter and cheese find a ready market in Great Britain and Canada.

The rainfall on the east coast of the North Island at Hawkes Bay, Bay of Plenty and Wairarapa averages about thirty-five inches a year. In the South Island the average is much less, but the extremes in different regions are greater. The eastern districts have proved very suitable for sheep farming, and over 39,000,000 sheep (mostly Southdown and Romney Marsh breeds) roam the gentle slopes the year round. Since the first shipment was made in 1882, New Zealand lamb has been famous for its quality. The country has one of the largest export trades in wool and frozen meat in the world, sending away more lamb and mutton to the United Kingdom than the Argentine and Australia together. The latest figure for value of farm production is approximately £321,000,000 annually.

New Zealand has few secondary industries of much importance but depends almost entirely for revenue on the export of dairy products, meat and wool. Her mineral resources are not large; however, more than £120,000,000 worth of gold has been sent out of the country, mostly mined in the last century.

New Zealand became a Dominion in 1907. Politically she has been noted for social legislation since the days of Richard Seddon, who became Premier in 1893. In 1898 he introduced old age pensions, and under his administration women were enfranchised. Today a national superannuation plan, free medical services and family benefits are among the many amenities enjoyed by the citizens of the country.

C.G.J. map

A dairy farm near Okoroire in north central North Island.

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EDITOR'S NOTE-BOOK

Merle Storey (*Hungarians in Canada*), after obtaining a degree in modern languages from the University of Toronto, for six years did editorial work with the University of Toronto Press. During the Second World War she served in the Canadian Government's Censorship Department. After the war she spent some time in Germany, then served for a period with the Canadian Institute of International Affairs. Miss Storey is now a Citizenship Officer in the Programmes and Materials Division of the Department of Citizenship and Immigration, Ottawa.

* * *

A. Hollenzer (*Pictorial of Hungary*) is an experienced professional photographer whose work has appeared in other North American publications. He formerly lived in Budapest but is now established in Montreal.

* * *

A. de Vos and A. T. Cringan (*Fur Management in Ontario*) are both in the Department of Entomology and Zoology at Ontario Agricultural College in Guelph. Mr. de Vos is an Associate Professor. Their article is based on a paper prepared for presentation at the North American Wildlife Conference.

* * *

F. C. Hoefsmit (*Shoran Reconnaissance in Canada's North*) has been manager of shoran projects in the Canadian north for Spartan Air Services since 1951. An expert navigator, he obtained his training in the Netherlands Nautical College and the Netherlands Aeronautical College, then served seven years with the Netherlands Merchant Navy, two years in Aero-Holland's Navigation Department and six months with the International Air-Naval Service. He now spends half the year in northern Canada.

* * *

Donovan Clemson (*In the Kamloops District of British Columbia*) is a freelance photographer whose work has appeared in a number of Canadian publications in recent years. He lives on a farm near Armstrong, British Columbia.

* * *

Len Wilkie (*New Zealand — The Long Bridge Land*) is the pseudonym of the wife of a New Zealand sheep farmer who was born in Austria of Canadian parents. She has also lived in West Africa and Canada. Once a school teacher, she now divides her time between household duties and freelance writing.

THE TRAVEL CORNER

A general view of the city of Caracas, Venezuela's capital. The building in the foreground is a hospital.

Hamilton Wright

Today in Venezuela

Venezuela has been quietly engaged in a program of self-improvement and development which has received little publicity abroad. Today its standard of living is the highest in Latin America. There is little unemployment. And the Venezuelan bolivar, worth about twenty-two cents in Canadian currency, enjoys a sound position.

In 1956 an important irrigation project on the Guarico River was finished. A more ambitious undertaking, now in progress in Barinas State in the west, will result in the irrigation of 618,000 acres. It is expected that this year will see the completion of a petro-chemical plant, the hydro-electric system on the Caroni River and the docks and shipyards of Puerto Cabello.

One facet of the country's development directly benefiting the traveller is the construction of new hotels. Five were completed last year. Seven more are being built this year in Macuto, Cumaná, Puerto Ordaz, Puerto La Cruz, Turén, Calabozo and San Domingo. The most unusual of those erected during 1956 is the Humboldt, a luxurious hotel 7,000 feet above sea level on the top of Avila Mountain between the city of Caracas and the Caribbean Sea. From the windows of this cylindrical 14-storey building there are magnificent views of the seashore, city and adjacent mountains. On each floor there are five suites, each consisting of bedroom and parlour separated by wall divisions that can be removed to make a single large room. After a two-mile ride by cable railway to Avila station, guests transfer to a round plastic six-passenger aerial car which carries them the remaining 2,000 feet to the hotel's reception area.

In Maracay, capital of Aragua State, a 157-room hotel, known as the Maracay, has been opened. Southwest in Barinas City is the new Llano Alto Hotel, which has sixty-eight rooms and seventeen cabins. Farther west, in Mérida, stands the Prado Río Hotel, which commands an excellent view of the Venezuelan Andes. Its main building contains thirty-eight rooms; there are also fifteen cabins. In the Andes, also, is the Tamá Hotel at San Cristóbal, capital of Tachira State. It is a ten-storey building of reinforced concrete, standing on high ground well above the city. There are 113 rooms.

On the Caribbean coast of Venezuela in the Barlovento area, eighty-five miles east of Caracas, a tourist resort centre, Ciudad Balneario Higuerote, is being constructed. The site is a bay with six miles of fine white sandy beach. The resort will contain several hotels, a yacht club, an 18-hole golf course, a community centre, an open air theatre, a hospital, a church, shops and schools. Back of the ocean front there will be canals along which private residences will be built. Eventually the scenic highway from Caracas to the seaside resort, Los Caracas, is to be extended to Higuerote.

Venezuela is on the north coast of South America between British Guiana and Colombia. It has an area of 352,150 square miles and a coastline 1,750 miles long. It is a land of many rivers, thick jungles, vast plains and densely forested mountains. The largest of its hundreds of rivers is the Orinoco, which is 1,600 miles long. The general climate is tropical, but there are variations of temperature in different regions due to altitude or the modifying effect of the trade winds. The capital, Caracas, which lies at an altitude of about 3,000 feet, has an average temperature of 68.9 degrees Fahrenheit.

The country is a federal republic consisting of twenty states, two federal territories, a federal district, and seventy-two island dependencies.

(Continued on page VII

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(*Continued from page VI*)

In 1955 the estimated population was 6,178,547. The capital, Caracas, was founded in 1567. It is a beautiful, well planned city with a population of over one million in its metropolitan area. Its seaport, La Guaira, a few miles north, is linked to it by railway. La Guaira is the country's most important commercial centre.

In recent years deep sea fishing has become very popular in Venezuela. There are yacht clubs and nautical sports centres in Macuto, Los Caracas, Maracaibo and several other communities. Venezuelan waters are described as teaming with gamefish of numerous varieties, but the favourites of fishermen are tarpon, tuna, needlefish, wahoo and sailfish. The *llanos* (plains) of the country offer diversions of a different kind, such as rodeos and cock-fights. Here, too, hunters find fair game in leopards, wild boars and ducks.

Fish, animals and reptiles are important supplements of the national diet. Among the many varieties of fish appearing on Venezuelan tables, red snapper, mero, bonito, sea mullet and bluefish are prominent. Octopus is an indispensable ingredient of the Spanish-American dish *paella*. Other seafood includes clams, oysters, mussels, squids, lobsters, shrimps, prawns and crabs. A delicious soup is made from the tail of the caiman, a member of the crocodile family. Its eggs, when hard boiled, are considered a delicacy. The meat and eggs of the iguana lizard are also eaten. Another popular dish is Morrocoy land turtle, stuffed and baked in an oven.

Canadians entering Venezuela as tourists require a passport and visa, a smallpox vaccination certificate, a letter of reference from a bank or business in Canada indicating the purpose of the visit, and a ticket or other evidence that return transportation is paid.

Lord Selkirk Enters Service

At the end of this month a new passenger and automobile ferry, the *Lord Selkirk*, is expected to enter service between Cariboo, Nova Scotia, and Wood Island, Prince Edward Island. Launched late in the autumn of 1956, the ship is owned by the Northumberland Straits Ferry Company Limited. Her route is an important nautical link in the Trans-Canada Highway system, providing a means of passing from the mainland section of the highway in Nova Scotia to the Prince Edward Island portion of it. There is space for sixty vehicles and accommodation for 300 passengers. Facilities for passengers include a lounge, coffee shop and rest rooms.

Ste. Anne de Beaupré

Plans are being made for the celebration in 1958 of the tercentennial of the famous shrine of Ste. Anne de Beaupré, near Quebec City. The opening solemnities of the anniversary year will take place 4 May and the occasion will be marked by an international pilgrimage for world peace, attended by delegations from many countries.

Reduced C.N.R. Rates

During the summer Canadian National Railways are offering reduced rates for first class round-trips to eastern Quebec and the Maritime Provinces. They will be in effect until 2 September. The return trip must be made within twenty-five days after the date of the ticket's purchase. In Ontario these reduced fares are available from stations as far west as Port Arthur, Armstrong, Windsor and Sarnia.

AMONGST THE NEW BOOKS

Iron Ores of India

by M. S. Krishnan

(Indian Association for the Cultivation of Science, Calcutta. $1.50)

This book of 177 pages, as explained in the publisher's note, is the printed record of a course of three lectures delivered by the author, Director of the Geological Survey of India, in his capacity as Ripon Professor in 1953, on the topics: (1) ancient Indian iron and its manufacture, (2) the iron-ore deposits of India — their characters and distribution, and (3) the modern iron industry in India and its future. The author has drawn freely from his valuable scientific work, *The Iron Ores of India* which forms part of a symposium on *The Iron Deposits of the World*, published by The Nineteenth International Geological Congress, Algiers, 1952.

The first three chapters are entitled: geochemistry of iron, ores of iron, and origin and classification of ore deposits. In them there is a brief review of modern concepts of the amount, nature and distribution of iron and its compounds at depths within and near the surface of the earth; and the chemical reactions and geological processes, that have occurred repeatedly throughout geological time, to bring about the deposition of concentrations of the particular iron-bearing minerals that have been found suitable for the commercial extraction of iron. These deposits are iron ores and, on the

bas s of origin and occurrence, they are classified in six types: Igneous, Co tact metamorphic, Lode, Re-pla ement, Sedimentary, Residual. Eac h of these types is briefly described and examples are cited from various parts of the world.

This portion of the book may be regarded as an abridged text-book on the subjects dealt with and it explains the author's usage of scientific terms in subsequent chapters.

There are a small number of details that admit of critical comment. On page two, "In general, not much iron enters the sea as it is soon precipitated as bog ore or oolitic ore or as a silicate such as glauconite, greenockite, chamosite, thuringite, etc. If some iron does enter the sea, it is converted into colloidal ferric hydroxide in which form it may be precipitated." In this passage, the meaning of "soon" is not clear. The oolitic iron deposits and the iron silicate minerals listed are not now being precipitated in the sea; the author does not indicate where, on the earth's surface, they are being precipitated. Greenockite, the mineral cadmium sulphide, is out of place in its context.

"In the presence of hydrogen sulphide, iron may be precipitated as a sulphide. This occurs chiefly as marcasite in coal beds but as pyrite in other sediments. Sedimentary pyrite deposits are fairly common." The author is referring to pyrite-bearing sedimentary deposits, not to sedimentary pyrite deposits in which the pyrite, as such, is laid down as a sediment.

On page three the author casually introduces "marine iron deposits" without the desirable explanation that different geologists interpret the origin of these deposits in different ways. The examples cited by the author have been subjects of rival interpretations, and in the opinion of some geologists they are not marine chemical sediments but replacement deposits. On page four, for "Greenlatite" read "Greenalite". On page five, omit "taconite" from a list of iron silicate minerals.

On pages eight and nine the articles on "Replacement deposits" and "Sedimentary iron ores" do not deal with these subjects adequately. The reviewer notes with surprise that in discussing the banded hematite-jasper type, more prominence is given to the view of Van Hise and Leith than to the interpretation of J. A. Dunn and A. K. Dey, investigators identified with the Geological Survey of India.

On page nine magnetite and ilmenite sands are sedimentary deposits, and should be classified under Sedimentary iron ores, not with Residual deposits.

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In part of Chapter III, the author describes the method of mining iron ores in the Lake Superior region and in India, and describes the several methods of beneficiation adopted in the former. He also gives an excellent article on the manufacture of iron and steel, that explains the processes used and the technical terms given to the products.

The history of iron and steel making, from prehistoric times until the present, is a very interesting chapter. It includes the findings of archaeologists and metallurgists on the early use of iron by man, starting probably with natural meteoric iron as the source material and subsequently, after the invention of the furnace, with iron ore. Non-rusting iron artifacts have been found in Egyptian tombs 6,000 years old. The opinion has been expressed that the Hindus first developed the art of making steel, and that the steel of South India made its way by trade routes to the nations of Europe and Egypt. Primitive, small, blast furnaces are even now to be found, functioning, in out-of-the-way places in India. They are described by the author. In Europe, the same process was extant till about three centuries ago in the Catalan Forge.

About the middle of the fourteenth century larger furnaces were constructed in Belgium, and it is stated that the iron was really obtained in a molten condition in these furnaces. Here, apparently, the first cast iron or pig iron was made.

Down to the end of the sixteenth century the only fuel used was charcoal. By 1618 experiments were made in England to use coal instead of charcoal. Subsequently, coke was used in 1733, with more satisfactory results.

The author records in chronological order the outstanding historical inventions and modifications in blast furnace design and operation that resulted, between the years 1874 and the present, in the increase of output of individual furnaces from 15 tons of iron per week to 1,500 tons per day.

During and after the Second World War a new development was taking place, namely, the increase of the oxygen content of the blast. It is known that pilot experiments in low-shaft furnaces with oxygen blast are now being actively pursued.

In subsequent chapters, the author directs attention particularly to India. Under the heading "Ancient Iron and Steel in India" it is reported that there are several references to iron in the Rig Veda and the metal must have been well known when these sacred books were compiled, several centuries before the Christian era.

Most of the iron objects of ancient times have rusted away, but there are a few examples of non-rusting iron found in different parts of the country.

The most celebrated example is the Delhi Pillar now standing beside the Kutab Minar at Delhi. This remarkable column, estimated to weigh over six tons, rises twenty-two feet above the ground and bears an early inscription believed to date from the third or fourth century A.D. It indicates an amount of skill in the manipulation of large masses of wrought iron which has been the marvel of all who have endeavoured to account for it. Analyses are reported to show that it consists of pure malleable iron without alloy. It shows no sign of rust though it has been exposed to the atmosphere for, presumably, 1,500 years.

An excellent description is given of several treasured evidences of early skill in Indian iron manufacture; and the Delhi Pillar and a large cannon at Tanjore Fort are illustrated by photographs.

The indigenous processes used in the early iron industry are described in general, and in detail for various parts of India. This covers a period of about 3,500 years, historically, and an extensive area, geographically. It is said that there is scarcely a district, outside of the great Indo-Gangetic alluvial plains, where ancient slag heaps are not found. And at each such site it may be confidently inferred that there was plenty of forest to supply the necessary charcoal and there was iron ore at hand. It was only during the nineteenth century that the industry rapidly dwindled and almost died out, partly because the forests were disappearing and mainly because mass-produced iron from Europe became available in large quantities at cheap rates. Even at the beginning of the present century there were several hundreds of furnaces scattered over the country, each manufacturing two or three tons of iron per year. The iron makers used to get their ore from almost any source in their vicinity. The ore may be rich pieces of hematite or magnetite forming the "float" around larger deposits; magnetite sands from rivers and streams; pellets of iron stone derived from laterite deposits; or even the richer ferruginous sandstones or shales.

A chapter on "Early Attempts at starting a Modern Industry" gives an interesting and instructive summary of various attempts made in different parts of India, by both government and private enterprise, to establish a modern industry. Most of these were stopped, after making considerable progress, by adverse circumstances and one or two due to lack of help

from the government at a critical period. The sole survivor was the Bengal Iron Works which was taken over by the Bengal Iron and Steel Company in 1889 and remodelled. This, at a much later date, was amalgamated with the Indian Iron and Steel Company.

The final chapter includes, in eighty-five pages, an attractively presented compilation of information from authentic sources on the iron ores of India. An index map shows the location of thirteen districts, widely distributed in India, in which the more important iron deposits occur. Iron ores occur in practically every State of the Indian Union but several of the deposits are not rich enough or large enough to be considered economically workable at the present day. The richer deposits are to be found in Bihar, Madhya Pradish, Orissa, Bombay, Mysore and Madras.

The iron ores occur in rocks of several different geological ages; the great majority of the important deposits are classified as Precambrian.

In a table with three columns headed, Formations, Nature of ore and Occurrences, the author has systematically listed, in the first column, the rocks, in their geological age sequence, in which iron deposits occur; corresponding to these, in the second column, is shown the mineralogical nature of the ores found; and in the third column, the locations of the occurrences, defined by the names of states and particular localities.

Descriptions are given, by states in alphabetical order, of the iron-bearing districts and the individual iron ore deposits. For each locality, which is defined by latitude and longitude as well as by a place name, details are given regarding its history, acknowledgements to investigators or authors of reports, means of access, topography and geology. The iron-bearing rocks are well described as to distribution and dimensions, lithology, structure, metamorphism, origin and age. In cases where available information is adequate, estimates of tonnage of ore are given, and tables of chemical analyses.

In eight text figures, maps show the distribution of iron ores in important mineralized areas. Four well-chosen photographs illustrate features of interest at productive iron mines.

The reserves of Indian iron ores are shown in a table that brings together the estimates, "proved and indicated," and "possible", of tonnage of iron ore at the localities described in previous pages, and here arranged in order: hematite ores, magnetite ores, and limonitic and spathic ores.

The summary of totals shows, in millions of tons:

	Proved and Indicated	Possible
Hematite Ores	5,316	16,630
Magnetite Ores	605	1,610
Limonitic Ores	500	2,000
Grand total	6,421	20,240

The author reviews the progress of the modern iron and steel industry in a few pages that record the history of operations by the Bengal Iron and Steel Company, the Indian Iron and Steel Company, the Tata Iron and Steel Company, and the Mysore Iron and Steel Works and Steel Corporation of Bengal. Late in 1952, a merger was effected between the latter and the Indian Iron and Steel Company, and arrangements were made for an expansion of the output of pig iron and steel and additions to the mills for handling the expanded production of steel.

Several factors that may be expected to lead to a future steady expansion of the iron and steel industry in India are enumerated and explained by the author in the closing paragraphs of the book.

The book contains a list of references, tables showing the output of iron ore in India from 1898 to 1950; the output of pig iron in India from 1900 to 1950; the output of steel in India from 1912 to 1950; exports of pig iron from India from 1924 to 1950; and imports into India of iron and steel from 1904 to 1951; and an index.

T. L. TANTON

Dr. T. L. Tanton was until recently senior geologist on the Geological Survey of Canada. In 1947 he was sent as delegate to the Science Service Congress held in India, and examined all the important mining sites.

* * *

The Bird Biographies of John James Audubon

Selected and edited by Alice Ford
(Brett-Macmillan Limited, Toronto. $10.00)

Somewhat more than a century has passed since the death of Audubon. To many of the present generation, even among those with a lively interest in wild birds and mammals, the great American naturalist and painter is but a name. Publication, in a volume of nearly 300 pages, of these carefully chosen samples of his writings and his bird portraits, has been undertaken in order to make readily available "the vision, matchless and moving, of an incomparable observer, who catches the beauty and drama, the wonder and mystery of the birds."

From half a thousand "bird biographies" published by Audubon between 1831 and 1844, the present editor, guided primarily by her concern that modern readers should be made aware of his great contribution to our knowledge of North American birds, selected eighty for this book. They treat of a wide variety of native birds, ranging from the golden eagle to the ruby-throated hummingbird and including two species, the passenger pigeon and the Carolina parrot, which are now extinct. Through some unfortunate misunderstanding, the phoebe, a little flycatcher that was known to Audubon in Pennsylvania and other eastern states as the pewee, appears in this collection under the name of Say's phoebe, which belongs to a distinct species that ranges westward from the Dakotas.

The book also presents, through the courtesy of Harvard University, coloured reproductions of twelve of Audubon's original bird portraits, not previously published. Four of these are of species not dealt with in the accompanying text.

With the help of this volume, the reader may share the great pioneer naturalist's keen interest and boundless enthusiasm as he explores the

(Continued on page XI)

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(*Continued from page X*)

rocky shores of Labrador, rides through the great primeval forests of Kentucky, and penetrates the gloom of the dank cypress swamps of Louisiana. Nine of the sketches in this selection contain substantial material relating to experiences in Canada.

The study of American birds in their natural environment, though much neglected prior to Audubon's day, has long been actively and widely carried on. It is not to be wondered at that republication of the great naturalist's bird biographies, written more than a hundred years ago, while showing how greatly he advanced knowledge of the subject, brings also emphatically to mind how much information and comprehension have since been added.

The style, or what is perhaps better called the aroma, of these bird biographies is indeed unique. This may be attributed in part to the author's artistic temperament, which increased the difficulty of attaining a desirable objectivity, and in part to his undoubted egotistical tendency. Most of all, however, his unusual way of expressing himself in print appears to result from the attempts of his French mind to present his thoughts gracefully in a language acquired secondarily. French was his mother tongue and it would be only natural for him to do much of his thinking in that language, with an inevitable effect on the English that he wrote. Consequently his gift for beautiful and moving expression appears perhaps most clearly in the French translation of his writings, by Eugène Bazin.

The English manuscript that Audubon produced with great labour was much in need of editing, which was given it with painstaking care by William MacGillivray and others. The biographies included in the volume under review have been edited afresh. Footnotes are used to correct some of the errors of the original publication. Still further editing could be applied to advantage. It is remarkable that the flavour given to these writings by Audubon remains as evident as it is.

The original bird portraits are well reproduced, the letterpress is clear and attractive, and few typographical errors are noticed. All in all, the volume presents a pleasing appearance, worthy of its mission.

HARRISON F. LEWIS

Dr. Harrison Lewis is a well-known ornithologist and conservationist; formerly chief of the Dominion Wildlife Service, and in charge of migratory birds in Ontario and Quebec.

Borneo People

by Malcolm MacDonald

(Clarke Irwin and Co. Ltd., Toronto, $5.00)

In his nearly ten years as the representative of the Crown in South-East Asia, Malcolm MacDonald won the reputation of being the "travellingest" man in all those parts. He found much to assuage his curiosity, for South-East Asia, a part of the world little known to Canadians, has variety galore in its peoples, its customs, its flora and fauna, and even in such mundane things as its foods.

Over the centuries there have been constant migrations from as far away as Mongolia; there has been continuous intermingling of populations so that racial traits have been blended. Only in the last few hundred years, when first came Arab traders then European colonialists, has anything resembling a record of history been compiled. The Chinese were early travellers in this area and, like the peoples of Europe or the Jews for example, they retained close contact with their home land. Mr. MacDonald mentions exchanges of official greetings and royal gifts between the early potentates of Borneo and the Chinese Emperors.

The official position and duties of the King's (and later the Queen's) representative did not interfere with Mr. MacDonald's desire to get to know the ordinary people who live in the far-flung territories of Britain's empire. In fact his most outstanding characteristic was his informality—and it need hardly be added that this was the characteristic which caused the greatest amount of criticism among the colonial Colonel Blimps. But even they would agree that his informality with native peoples won him tremendous popularity with virtually all Asians living under British rule. They might go on to point out, that familiarity breeds contempt but in an age in which Asian nations are freeing themselves not only from foreign colonial rule but also from "feudal" social systems of their own it would obviously be wrong not to offer a friendly helping hand. That was Malcolm MacDonald's role in South-East Asia.

This is a little of the background for *Borneo People*, which could be more accurately entitled *People of Sarawak* or *My Friends of the Rejang River;* Sarawak is a part of the island of Borneo and the Rejang is its most important means of internal communication. Sarawak has a glorious tradition in the history of British imperialism. Prior to World War Two

it was governed almost exclusively by the Brooke family, but the third Rajah Brooke saw that his resources were insufficient to cope with the economic and social development which the country must have for reconstruction and progress. He ceded the land to the Crown, to the great disappointment of his heir. There was an anti-cession movement sponsored by a group of malcontents, but by and large cession was greeted favourably by the people of Sarawak, who recognized that it was the wish of their Rajah.

"Most British officials in Sarawak", Mr. MacDonald says, "have a definite preference for one or other of the pagan tribes. Some like the Ibans best, while others prefer the Kayans, and yet others favour the Kenyahs or the Melanaus or the Kelabits or the Punans." It is obvious that Mr. MacDonald has a distinct leaning toward the Ibans and particularly the longhouse of Temanggong Koh on the Balleh River, a branch of the Rejang. Here he spent many happy light-hearted hours and he developed a deep affection for the old patriach and his family, particularly his daughter Segura.

Segura was an outstanding example of the conflict between progress and tradition—progress sponsored by the British as official policy to enable the Ibans to take their rightful place in the community, and tradition which is so necessary if a society is to have something to hold on to. Segura, a comely maiden of 13 when Mr. MacDonald first met her, was as wilful as her chieftain father, whose understanding of the modern way was limited. Nevertheless, he sent her to the mission school where the first lesson she learned was to cover her semi-nakedness and the second was that the Ibans' rules of trial marriage made her fair game for the local "more civilized" swain.

The paramount representative of Britain's Monarch was made a son of the paramount chief of the Iban race, an honour which this much-honoured man cherished probably above all others. In return for the hospitality he received in Temanggong Koh's longhouse, he brought his adopted family to visit him at his palatial residence "Bukit Serene" near Singapore. The pleasures he derived from this experience, shopping in a big department store, riding in a Rolls Royce, going to an amusement park, were well worth the strain on his bank account. And the Temanggong's tirade, set loose by Segura when she appeared after three hours in a beauty salon, is enough to make one think again about the blessings of modern civilization.

Some of the innovations brought to the up-river reaches of Sarawak by the author make amusing reading. During one night of longhouse revelries, he introduced the game of "blind man's buff" with outstanding success. When the subject of progress and tradition in clothing seemed to be in conflict, he wore his kilt and described how his countrymen, once branded barbarians, had stubbornly held on to their heritage by perpetuating many of their customs. In addition to their own songs the pagans of Sarawak now have *Auld Lang Syne* as a tribute to this Scotsman.

Mr. MacDonald has the engaging talent of telling a story more than one way without sounding repetitious, and there are many heart-warming and amusing experiences related in *Borneo People*. The pagans' alcoholic capabilities are renowned and despite his ancestry, the author admits that he is no match for their debaucheries. He did enjoy the rest of their revelries, however; the war dances of the Kayans, the endless *bedaras* in which he prepared a meal to appease both the good and evil spirits; *pantuns*, Iban equivalents of calypsos, sung by the longhouse ladies; stories of pythons and crocodiles, of taking a bath surrounded by skulls of the not-so-distant era of head-hunting; and a Chinese dinner, the description of which is sufficient to make anyone with an appetite and a slight degree of curiosity feel that he is missing "the noblest experience in life and perhaps the supreme purpose of man's existence on earth".

Borneo People is a delightfully written travel book by a man who has a sympathetic understanding of the peoples of Asia. What makes it more interesting than the usual travel book is that Malcolm MacDonald is a very important part of the revolution which he mentions briefly and which forms the book's background. Since leaving South-East Asia in 1955, he has been United Kingdom High Commissioner to New Delhi, but he has revisited his friends on the Rejang and Balleh Rivers of Sarawak.

D. S. ARMSTRONG.

Mr. D. S. Armstrong was formerly Canadian Government Senior Trade Commissioner at Singapore; he is now commercial secretary to the Canadian Embassy at Cairo.

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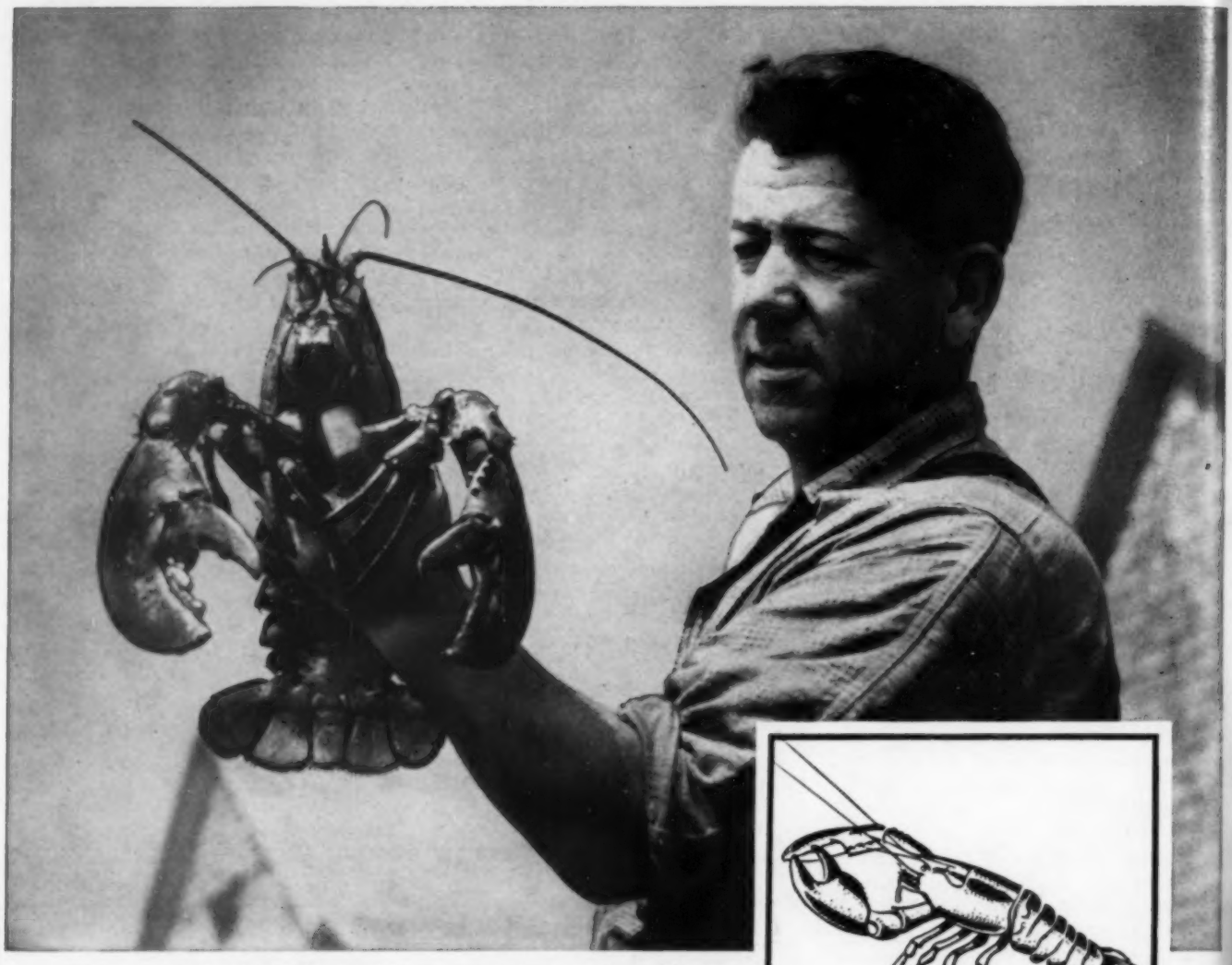

A year ago, the life of this fine lobster was reprieved. Then small, he was thrown back into the sea—allowed to grow into a bigger, more profitable catch. By throwing back shorts, lobster fishermen are actively cooperating with the Department of Fisheries to conserve their own great industry.

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Atlantic lobster fishermen use these specially constructed traps—built to allow undersized lobsters to escape. This is only one of the conservation methods by which the industry is safeguarded.

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